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DIESEL RAILWAY TRACTION

The April issue of this RAILWAY GAZETTE *publication, illustrating and describing developments in Diesel Railway Traction, is now ready, price 2s.*

Loans and Subsidies

THE continued delay by the Minister of Transport in arriving at a decision on the recommendation by the Charges Consultative Committee that the application of the British Transport Commission for increased railway and docks charges should succeed has given rise to numerous comments in the press. Some quarters have suggested that the Cabinet is split on the proposal. Now that the General Election is out of the way and can no longer be advanced as a reason for postponing announcement of the Government decision, it has been suggested that the Minister will not make known his policy until after Budget Day. In the meantime, several suggestions have been made for averting the imposition of the higher charges, which obviously would be a matter for grave concern to industry. In our last week's issue, we suggested that one way out of the impasse might be found by treating the early years of the British Transport Commission as a development period or experimental stage, allowing the deficit to run for, say, five years, and funding it. Last week's issue of *The Economist* said that among suggestions which had been put forward, had been a loan to cover the accumulated deficit or part of it and a tax on road transport. It went on to say that if the Government were to accept either of these objectionable propositions, it would admit the complete overthrow of all acceptable ideas about the integration of transport. The first step, said *The Economist*, would amount to a subsidy, unless the growing efficiency of transport enabled the loan to be recouped later. The objections to a subsidy have been dealt with frequently in our columns, but the point made by *The Economist* is not clear. Funding a deficit, and issuing Transport Stock against it, would not be a subsidy in any usually understood sense of the word. In any event, a subsidy remains a subsidy whether it be temporary or permanent, and the fact that it might be repaid later—a very unlikely event in the case of a true subsidy—would not alter its character.

Transport Charges

THE annual luncheon of the Mansion House Association on Transport for many years has been an important gathering of prominent users and suppliers of transport services of all kinds. At the function last week, a brief report of which appears elsewhere in this issue, more than 200 members and guests assembled to hear Sir John Anderson, Chairman of the Port of London Authority, Mr. C. E. Wurtzburg, Vice-President of the Chamber of Shipping, Lord Lucas of Chilworth, Parliamentary Secretary to the Ministry of Transport, and Captain Oliver Lyttelton, speak on various phases of the industry with which they are all in contact. Sir John Anderson, while recognising that those in charge of and operating the nationalised transport industry were competent and zealous, drew attention to some of the problems which urgently require solution, and both he and Captain Lyttelton mentioned the need for getting the British Transport Commission finances on a sound basis in the interest of trade and industry. Captain Lyttelton was by no means pessimistic as to the possibility of means being found of making the nationalised transport system work successfully, both from the point of view of giving an efficient service and securing a reasonable financial return.

Review of C.I.E. Position

IN an editorial article in our issue of March 10, when commenting on the Coras Iompair Eireann report for 1949, attention was drawn to the fact that the accounts for that year showed a loss of £1,205,746. At the annual general meeting on March 22, however, when dealing with the financial position as a whole, there was a reference by the chairman to the recommendation in the Milne Report of 1948 that the accounts should be prepared on a different basis, because in the past varying methods had been adopted to provide for depreciation and renewal of wasting assets, and there had been considerable fluctuation in the amount set aside out of profits for these purposes, resulting in the total provisions being more than adequate. Made up in the form recommended the accounts showed a loss on net revenue account of £263,166 less than that shown in the printed report. In his address, which is reported elsewhere in this issue, Mr. T. C. Courtney said that during the year there was an increase in the facilities available for passengers, and at the same time an improvement in the overall running of tours by rail and road. On the road passenger side an additional fleet of 76 double-deck and 95 single-deck buses had been provided.

International Goods Timetable Conference

THE Spring session of the International Goods Timetable Conference, which meets twice a year and is the freight equivalent of the passenger conference whose last session was held at Brighton in October, 1949, took place at Dubrovnik from March 27-April 1 at the invitation of the Jugoslav railways. There were 61 delegates present, from Great Britain, Belgium, Italy, Luxembourg, the Anglo-American and French zones of Germany, Norway, the

Netherlands, Sweden, Switzerland, Trieste, Jugoslavia, and the United Nations. The delegate expected from Czechoslovakia did not attend, and Switzerland was elected to fill the resulting vacancy on the board of the conference. The British delegates were Mr. C. Keep, Assistant to the Continental Traffic Manager, Eastern and North Eastern Regions, and Mr. S. J. Grant, Freight Assistant, Continental Department, Southern Region. The task of the Conference, which last met in Amsterdam in November, 1949, includes the co-ordination of European goods train schedules, the framing of rules governing the crossing of frontiers by international goods trains, and the crossing of individual European countries.

Indian Railway Statistics

THE latest available statistics show that the total route-mileage of all railways in the Dominion (now Republic) of India was 33,861 on March 31, 1949, as compared with 34,068 route-miles a year earlier. The net reduction of 207 miles is due to a number of adjustments. During 1948-49 the Jodhpur-Hyderabad (Sind) section of the Jodhpur Railway, 319 miles in length, was handed over to the Pakistan Government, and the Mysore State Railway handed over 27 miles of tramway to the Public Works Department. On the other hand, 140 miles of narrow-gauge lines were included for the first time in the Saurashtra (Kathiawar) railway system. River ghat line movements and realignments accounted for a reduction of two route-miles. On the financial side, capital at charge of all railways in India on March 31, 1949, was Rs. 703·24 crores (£527,430,000) and during 1948-49 gross earnings amounted to Rs. 216·58 crores as against Rs. 174·88 crores in 1947-48. As working expenses rose to Rs. 167·03 crores (Rs. 155·07 crores in 1947-48) the net earnings of all lines totalled Rs. 49·54 crores (£37,150,000) as compared with only Rs. 19·82 crores in the preceding fiscal year. The above route-mileages include those of the Eastern Punjab and Assam Railways, but the financial figures do not include these systems.

New Rolling Stock for the G.N.R.(I.)

OUR issue of September 3, 1948, contained an article describing and illustrating the second "Enterprise" express introduced by the Great Northern Railway (Ireland) for non-stop runs between Belfast and Dublin. The introduction of this train was decided on as a result of the success of the first "Enterprise" which went into the service in the summer of 1947. This service has been still further improved recently by the addition of a new buffet car. This has been designed with channel section underframes and bogies, together with the standard type of suspended gangways, drawgear, and double buffers adopted by that railway. The car body is constructed of timber framing with outside panels of tempered hardboard $\frac{3}{16}$ in. thick. A new restaurant car, which will be attached to main-line expresses, also has been placed in service, the essential features of which are similar to those of the buffet car. Additional seating accommodation is, however, provided in the buffet-car dining compartment. Further details of the cars are given elsewhere in this issue.

Underground Railways in Canada

TOWARDS the end of the war Toronto and Montreal each prepared plans for subway systems to cater for their rapidly increasing populations, and to relieve their growing street congestion. Both possess points of similarity. Each includes a north-south subway for operation by rapid transit trains, crossed by an east-west subway, initially for tram-cars but adaptable to ultimate operation by trains. The Toronto project has reached a more advanced stage than that of Montreal; tenders have been awarded for the first section and construction has begun. It is understood that the line will be operated at 600 V. d.c., with a third rail supply in the tunnel sections. The cars will be based on the American P.C.C. type, having a high rate of automatic acceleration and electric braking. Several may be coupled to form train sets, but it does not appear to be intended to adopt railway multiple-unit practice of motor coaches hauling non-driving trailers. The planners in both cities have taken advantage of the latest technique in underground design, notably that of Chicago. The construction will be cut-and-cover, aided by the street layout and subsoil, enabling stations to be at sub-surface level. The services will be "self-contained" in that although there will be interchange facilities with the road services operated by the same authority, there will be no physical connection with the main lines nor projections of the subway trains over them. Such a development, although now common in London, is rare in North America, where trains on subway-elevated systems, however ramified, are rarely extended any distance over suburban main lines.

Closing Down on U.S.A. Railways

THE pace of railway abandonment in the United States continues steadily. Indeed, it showed a speeding up in 1949, with 484 miles abandoned, though this was largely due to the closing of the Missouri & Arkansas Railroad, which accounted for 211 miles; two portions of this railway, however, totalling a further 120 miles, have been acquired by new companies and will still be kept in operation. The accumulated mileage of abandoned U.S.A. railways since the 1920s now totals 23,514. In every year from 1932 to 1943 more than 1,000 miles of line were closed, and the peak of 2,516 miles was reached in 1942, when track materials were urgently needed for new lines and sidings during the war. The largest proportion of the accumulated abandonments of the 1931-1949 period, 6,021 miles, has been in the Middle Western States, Missouri, Michigan, and Iowa in particular; next come the South-Western States, especially Texas, with 5,522 miles abandoned. The smallest mileage of abandoned lines has been the 1,059 miles of the New England States. Even before the end of the 1920s, the scale of annual abandonment was already fairly substantial, because the total closing-down of United States railway routes in the 34 years from 1916 to 1949 inclusive has been 33,943 miles.

Motion Study in Industry

DURING recent years motion study has been successfully applied in an increasing number of industries. How this has come about was explained by Miss Anne G. Shaw, Management Consultant, in a paper to the Institution of Mechanical Engineers on March 24. Miss Shaw said that there were great advantages to be gained from providing detailed investigations into single specific problems, making use of all the detailed motion study techniques, but at the same time there was also a need for training large numbers of supervisors, technical specialists, and even operators in the use of simplified techniques in their daily work. This policy, which required patience and tact, ensured numerous small improvements over a wide field. The first type of application gave high percentage savings over a small area of work, and the second a low percentage of savings over a large area, the most profitable results being obtained by combining the two types. The fully trained motion study investigator divided his time between making major investigations and teaching and supervising others in the use of simplified techniques.

Mercury-Arc Rectifiers in Motor Coaches

STUDIES directed towards using industrial frequency alternating current for traction have stimulated interest in railway vehicles equipped with rectifiers. The *Westinghouse Engineer* reports that trials have begun in the U.S.A. with a motor coach using mercury-arc rectifiers of the ignitron type, after laboratory tests had shown that such rectifiers functioned normally under severe vibration. In the ignitron, which is used widely in connection with resistance welding, the arc is not maintained continuously, but is struck afresh each half cycle. The liability to arcing

back is reduced by the absence of ionised vapour during non-conducting periods, and this characteristic also permits a compact design and high capacity by a short cathode to anode spacing. In the present tests the traction motors are controlled by tappings on the transformer secondary. If, as seems likely from the laboratory experiments, no trouble is experienced from splashing of the mercury, there might be possibilities in the use of grid-controlled mercury arc rectifiers. Theoretically these should permit continuous speed control without resistances, automatic overload protection, and the other advantages now becoming familiar in connection with electronic control of machine tool motors.

Some More Second Thoughts

BEFORE nationalisation of railways became practical politics, and indeed right up to the passing of the Transport Act, trade union spokemen made great play of the desirability of, and benefits to be derived from, co-ordination and uniformity in many aspects of railway life. The unions were not alone in believing that standardisation, whether applied to men or machines, was desirable almost, it would appear, for its own sake. At the present time there is a good deal of evidence that those who have taken it on themselves to plan the lives of the people believe in the theory of standardisation, and are inclined to overlook, or disregard, or perhaps, even welcome, the fact that the insistence on a standard of anything often implies a levelling down rather than a levelling up.

In the current issue of *The Railway Review*, the organ of the National Union of Railwaymen, an article on the proposed new national scheme for promotion and redundancy of railway conciliation staffs, deals with some of the effects on certain grades within the service. The author appears to be having some second thoughts on the desirability of complete uniformity, possibly because he has been made aware of what some sections of railwaymen think about it. Nevertheless, having gone so far in their advocacy, and having induced the Railway Executive to go a very long way in the preparation of the scheme, there is little left for the union leaders to do but to induce those members adversely affected to make the best of a bad job, on the basis that, after all, it may turn out to be for the greatest good of the greatest number. It may be that when Socialism has entered deeper and in more practical fashion into the hearts of the railway workers this may seem a better argument than it does to many of them at the moment.

The author of the article in *The Railway Review* acknowledges in so many words that there can "be little doubt that in our enthusiasm for State ownership of our industry, we largely overlooked the fact that if one insisted on co-ordination and uniformity of the operational units, it could hardly be expected that we could be allowed to carry on with our own schemes, which were peculiar (and somewhat different) to each particular railway. There are among us those who might think that it would have been as well to let things remain, but it must be remembered that an annual general meeting decided in 1933-34 that a national scheme should be drafted in the interests of the membership."

It is interesting to note, too, that the article agrees that no doubt each and every scheme of the various separate companies was acceptable to the membership as separate units, but apparently some fear is entertained that the national scheme will not be acceptable to many. The author is at some pains to explain why it was not possible for the National Executive Committee to circulate the scheme during its negotiation to the branches for approval or amendment before final acceptance. It infers that to have done so would have been to have courted rejection and that it might not have been possible to have got through a scheme at all.

In a number of cases, by the operation of the new scheme, men will lose the advantage of grade seniority which was allowed under the former promotional scheme. In some cases, a man could decline to take advantage of his grade seniority and ignore advertisements for posts which he did not want because of his personal circumstances or preferences, but not lose any advantage when a higher post, which he might desire, came vacant. As from April 2, therefore, such a man finds that men who were formerly his junior in the grade are in a higher step and may be in front of him for a long time. It is going to be difficult to convince him of the benefit he secures from the adoption by the union of a "step" service as a prelude to seniority promotion.

Saving Seconds on the Underground

DEVELOPMENTS on the London Underground lines since the first electric tube trains ran from the City to Stockwell were emphasised in a recent paper by Mr. W. Owen to the Institution of Railway Signal Engineers. From block sections extending from the starting signal at one station to that at the next on the original City & South London line we have come down to some of a few yards only in an endeavour to cope with the ever-increasing pressure of traffic in the rush-hours and save a few seconds in the time taken by a train to follow the preceding one into a station.

This is but another stage in a process which began some 60 years ago; the pioneers of the City & South London soon found that the popularity of the service demanded a considerable shortening of the original block sections. In 1892, the long sections between Stockwell and the Oval, and the City and the Borough, were divided by providing outer home signals 600 yd. out from the stations and allowing the signalmen to replace such a signal to danger and free the starting signal in the rear as soon as the block instrument was released by an approaching train. This release was given by a brush carried on the last bogie passing over an insulated contact plate, the arrangement forming a "last vehicle treadle." The immediate improvement was so great that this working was soon extended throughout the line, and when the Central London Railway was opened in 1900, the same apparatus was installed. A further improvement consisted in making the inner home signal form the limit of another section, and the longer distances between stations on both these railways were later so divided. It was only a question of time before the tedious routine of the manual block working, though reduced to a few simple operations for each train, gave place to automatic signalling.

Before the change on these older lines, however, such signalling had been introduced on the Great Northern & City and the other tubes opened soon after, as well as on the District and Metropolitan lines, but at first the actual number of signalling sections was not much greater than had obtained under the manual system in its most developed form. The new apparatus lent itself, in a way no manually operated one could do, to modifications capable of meeting the requirements of a growing traffic, and step by step as the need became ever more pressing, additional signals have been provided, particularly in the immediate rear of stations. Automatic signals have been added, also, within the limits of areas controlled from signal boxes, something not contemplated when those boxes were first installed.

The limit of the facilities afforded by such alterations having at length been reached, some form of speed control signalling became necessary to meet the demands of the operating department, which was finding the reaction produced by the handling of passengers on the crowded platforms in the rush-hours more and more troublesome and to be increasingly retarding the column of traffic. This was not, of course, a problem peculiar to London. It had been met with in several cities, especially in certain parts of America, and speed control in various forms, some of them elaborate, had been applied in attempts to solve it. It was thought necessary, however, that any arrangement adopted in London should readily accommodate itself to existing practice as regards signal aspects, and not involve any really new principle of working for the motormen. This has been satisfactorily accomplished and Mr. Owen stated that the motormen had co-operated to the full with the signal engineers in making a success of the new arrangements.

Commercial Train Services—London and East Anglia

IPSWICH and Norwich, on the Colchester main line of the old Great Eastern Railway, and Cambridge, which, though considerably nearer London than the towns hitherto considered in these articles, is the centre for an area including Ely and Bury St. Edmunds, are chosen as representative of the commercial services in this part of England. Except in a few cases when a London and Norwich train *via* Cambridge and Ely happens to fill a long gap in the service *via* Colchester, Norwich trains *via* Ely and Wymondham, a journey of 124 compared with 115 miles *via* Ipswich, are ignored, as offering no through service of serious interest to business men.

The G.E.R. services before 1914 can be briefly dismissed, for despite some remarkable locomotive work (for the power then available) on certain Colchester line trains after 1907, the average of the service was not good. In the Spring of 1910, for example, it was not possible to reach Norwich till 1.15 p.m. (by the 10 a.m. from Liverpool Street), as the earlier 8.33 a.m., 10.20 at Ipswich, was a slow train to Yarmouth. The return trains from Norwich at 3.27 p.m. and 6.21 were, however, due in London at 6.40 and 9.25, very much as in 1939. Business men coming up to London could leave Norwich at 8.46 a.m., due in Liverpool Street at 11.25, with a good return train at 4.55 p.m., arriving in Norwich at 7.52.

To Cambridge the 8.40 a.m. from Liverpool Street made the run in 78 min. with a stop at Bishop's Stortford, and there were trains from Liverpool Street at 4.30 p.m. and 5.12 in 77 and 79 min., and from St. Pancras at 5.5 in 74 min. From Cambridge to Liverpool Street there were morning services at 8.53 a.m. and 9.38, due at 10.15 and 10.56, and afternoon trains at 4.42 p.m. and 4.55. At this time there was the very effective Great Northern competing service from Kings Cross, which the G.E.R. countered with through trains from St. Pancras, styled their "West-end terminus." The 1910 service from Kings Cross, then at about its best, comprised seven down expresses at 9 a.m. and 11.10, 12.40 p.m., 3, 5, 6.18, and 7.30, averaging 83 min. to Cambridge, with a best time of 75 min. Six up fast trains from Cambridge at 8.30 a.m., 10, and 11.55, 2.15 p.m., 4.35, and 6.30, included a best time of 80 min. and gave an average of 82.

When Mr. (afterwards Sir Henry) Thornton came from the Pennsylvania Railroad to be General Manager of the G.E.R., he promptly appointed a committee to overhaul the somewhat antiquated timetable; the result was what is known as the "radical alterations" service of October, 1914. Unfortunately, this coincided with the outbreak of the first world war, and so many alterations and withdrawals became necessary in the winter of 1914-15 that the new timetable never had a fair chance. The scheme was very ambitious, although the Holden 4-6-0s were then available to relieve the 4-4-0 "Claud Hamiltons" of some of the work. The timings, especially of the semi-fast trains, were very tight, while the margins allowed for late running were too narrow and station times so cut down that punctuality suffered. At that date, even more than today, up expresses had to keep exactly on schedule in the London area if they were to get a clear road from Shenfield to Liverpool Street.

The Thornton timetable gave a morning express from Liverpool Street at 8.30 a.m., due at Ipswich at 9.59 and Norwich at 10.58 (never since bettered), with return trains from Norwich at 3.35 p.m. and 6.30, due Liverpool Street at 6.55 and 9.24, also a 5.5 p.m. from Norwich *via* Ely, due at 8.16. The 8.53 a.m. from Norwich was in London at 11.16, and fasts from Ipswich at 8.10 a.m. and 8.50 arrived at 9.53 and 10.18. The evening return train left at 5.23, reaching Ipswich at 6.49 and Norwich at 8.7.

On the Cambridge line, the St. Pancras services were cut from five to two daily trains, but non-stops ran in each direction between Liverpool Street and Cambridge in times varying from 70 to 74 min.; the morning business train from London at 8.52 reaching Cambridge at 10.6. At this period, although the G.E.R. had not nearly enough modern corridor stock for all its summer services, despite the longish non-stop runs, little fault could be found with the stock of the regular business and residential expresses, and G.E.R. restaurant-car services were by common consent a very good second to the excellent services of the Midland.

The St. Pancras to Cambridge services did not re-appear after the 1914-18 war, and for many years the timetable was far below the level of October, 1914. Few changes were made after the 1923 grouping before May, 1932, when the Kings Cross and Cambridge "Garden Cities" buffet-car service began, with five trains each way, and

LONDON AND IPSWICH AND NORWICH

1939

			a.m.		a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.		
Liverpool Street	... ...	dep.	8.15	—	10. 3	11.30	12.25	3.15	3.40	4.54	5.16	6.40	7.42	—		
Ipswich	... ...	arr.	10. 2	—	11.49	1.27	1.55	4.40	5. 5	6.19	6.50	8. 0	9.29	—		
Norwich Thorpe	... ...	arr.	11.11	—	1. 0	—	2.55	—	6. 4	—	7.45	8.50	—	—		

1949

			a.m.	a.m.	a.m.	a.m.	p.m.		p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Liverpool Street	... ...	dep.	8.12	10. 0	10.25	11.10	12.30	—	3.40	4.54	5. 8	6.40	7.15	8. 8	
Ipswich	... ...	arr.	10. 3	11.25	12.14	1.30	2. 0	—	5.10	6.24	6.56	8. 5	9.23	10. 8	
Norwich Thorpe	... ...	arr.	11.20	12.20	1.29	—	3. 3	—	6.13	—	8.20	9. 0	—	—	

1939

			a.m.	a.m.	a.m.		noon		p.m.	p.m.	p.m.		p.m.	p.m.
Norwich Thorpe	... ...	dep.		8. 5	8.45	—	12. 0	—	2.17		3.42	—	—	6.45
Ipswich	... ...	dep.	7.32	9. 1	9.50		12.50	—	3.17	4.26	4.54	—	5.57	7.56
Liverpool Street	... ...	arr.	9.33	10.30	11.15		2.10	—	4.57	5.55	6.32	—	7.52	9.24

1949

			a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.		p.m.
Norwich Thorpe	... ...	dep.	—	7.30	8.45	10.10	11.40	—	2.15	—	3.50	5. 0	—	6.28
Ipswich	... ...	dep.	7.50	8.41	10. 0	11.28	12.34	1.55	3.20	5. 0	5.16	5.54	—	7.42
Liverpool Street	... ...	arr.	9.43	10.16	11.32	1.35	2. 0	3.39	5. 8	6.52	7. 6	7.20	—	9.15

LONDON AND CAMBRIDGE

1939

			a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Liverpool Street ...	...	dep.	8.30	—	10. 5	11.55			2.40	4.12	4.45	—	—	5.20	5.49	7.10	—	8.22	—	10.10	—
Kings Cross	...	dep.	—	9.35	—	—	12.40	2.10	—	—	—	5. 0	—	—	—	—	8.10	—	9.55	—	11.40
Cambridge	...	arr.	9.58	10.50	11.35	1.16	1.55	3.27	4. 0	5.17	6. 1	6.24	6.43	7. 8	8.27	9.25	9.45	11.26	11.42	12.55

1949

			a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.		p.m.	
Liverpool Street ...	...	dep.	8.20	—	10. 0	11.50	—	—	2.25	4.30	4.36	—	—	5.15	5.54	7.20	—	8.22	—	10. 0	—
Kings Cross	...	dep.	—	9.45	—	—	12. 5	2.25	—	—	—	5. 0	—	—	—	—	9. 0	—	—	—	—
Cambridge	...	arr.	9.54	11.13	11.34	1.18	1.37	3.53	3.57	5.50	6. 7	6.48	7. 3	7.21	8.45	10.30	9.52	—	11.42	—

1939

			a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.
Cambridge	...	dep.	7.45	8.45	9. 7	9.25	10. 1	10.20	11.15	12.30	12.58	2. 4	3.30	3.56	4.46	5.25	7. 3	9. 2	10.10	—
Kings Cross	...	arr.	—	—	—	10.39	—	11.44	—	1.42	—	3.29	4.42	—	—	6.37	—	—	11.24	—
Liverpool Street ...	...	arr.	9.24	9.51	10.23	—	11.19	—	12.35	—	2.14	—	—	5.19	6.10	—	8.20	10.29	—	—

1949

			a.m.	a.m.	a.m.	a.m.	a.m.		a.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.	p.m.			
Cambridge	...	dep.	7.48	8.48	9. 5	9.27	10.10	—	1. 5	12.20	1. 0	2. 8	3.25	4.18	5. 6	5.15	7. 7	—	—	—
Kings Cross	...	arr.	—	—	—	10.57	—	—	—	1.40	—	4. 0	4.45	—	—	6.45	—	—	—	—
Liverpool Street ...	...	arr.	9.23	10. 4	10.33	—	11.36	—	12.37	—	2.40	—	—	6. 0	6.48	—	8.45	—	—	—

these were slightly accelerated from July 18 of that year. Then, from September 27, 1937, the former Great Eastern shared in the high-speed revival, and the "East Anglian" commenced, at 6.40 p.m. from Liverpool Street to Norwich in 2¼ hr., calling at Ipswich, and returning from Norwich at 11.55 a.m. With a moderate load and specially streamlined 4-6-0s, it was a very easy task compared with that of the 4-4-0 "Claud Hamiltons" some 30 years earlier, in spite of an acceleration in 1938 to 2 hr. 10 min. in each direction; and the L.N.E.R. made no supplementary charge. From the same date the Cambridge line was given some 65-min. trains from Liverpool Street at 11.10 a.m., 1.40 p.m., and 4.12, returning from Cambridge at 11.50 a.m., 2.20 p.m. and 8.30. The London and Cambridge service at that time reached its highest level.

The services *via* Cambridge in 1939 were well spaced, as the only long interval between trains from Liverpool Street, 11.55 a.m. to 2.40 p.m., was bridged by the buffet services from Kings Cross at 12.40 p.m. and 2.10. Of the 65-min. trains, only the 4.12 p.m. down and 8.45 a.m. up survived, resulting in a marked superiority in commercial services from Cambridge to London and back over those in the opposite direction, though the 8.30 a.m. from Liverpool Street was a reasonably good train, and there was a choice of returns from Cambridge at 3.30 p.m., 3.56, 4.46, and 5.25. One other 65-min. pair of trains still ran, 11.10 a.m. from Liverpool Street and 2.20 p.m. from Cambridge, but it was now a Thursdays-only service and consequently does not appear in the timetable on this page. The 80-min. average time of 18 down fast trains (11 from Liverpool Street and 7 from Kings Cross) in 1939 compares with an average of 74 min. by 10 down trains (8 from Liverpool Street and 2 from St. Pancras) of the Thornton timetable 25 years earlier, when there were also six fast G.N.R. trains, averaging 82 min.

On the Colchester line in 1939, even if the 8.15 a.m. from Liverpool Street gave a good business service to Norwich, the evening return trains were poor, as there was still nothing from Norwich, *via* Ipswich, between 3.42 p.m. and 6.45, though a departure *via* Cambridge at 5.6 gave a Liverpool Street arrival at 8.20. Up trains from Norwich at 8.5 a.m. and 8.45 a.m., with 3.40 p.m. and 5.16 returns from London, as well as the 6.40 p.m. "East Anglian," were much more satisfactory, and the average time of 2 hr. 34 min. for the six London and Norwich expresses, with 80- and 85-min. timings between London and Ipswich, compared with 2 hr. 34 min. average by five trains in 1914. But the locomotive power available in 1939 was very different from that of 30 years before.

Considerable changes have been made since the second world war. Deceleration apart, the commercial facilities of 1949 compare very well with those of 1939. On the Cambridge line, the buffet services from Kings Cross, with four instead of five trains each way, were restored on December 6, 1948, and the "Fenman," at 4.30 p.m. from Liverpool Street and 8.48 a.m. up from Cambridge, which began to run on May 23, 1949, takes the place of one of the 65- and 66-min. services of 1939; the Thursdays-only 65-min. train, however, has not been restored. There is almost no deterioration otherwise in the commercial services, apart from the loss of up trains from Cambridge at 9.2 p.m. and 10.10 to Liverpool Street, and the 8.30 a.m. and 9.35 from London of 1939 have only been decelerated by six and thirteen minutes. The average journey time from Kings Cross to Cambridge has, however, risen from 79 to 92 min., and that from Liverpool Street from 81 to 92 min. The extra time allowed from Kings Cross by the buffet services, averaging 16 min. down and 14 min. up, is rather surprising, as the loads are only five and seven vehicles.

On the Colchester line, the average journey time to Ipswich has risen from 96 min. to 105, and that to Norwich from 2 hr. 34 min to 2 hr. 44 min. This, however, contrasts favourably with the extra time now required over the almost similar distance from London to Birmingham. A new service to and from Norwich, the "Norfolkman," was introduced in the autumn of 1948, on a similar schedule to that of the post-war "East Anglian," which was restored in October 1946, on a timing 10 min. slower than that of 1939.

The "Norfolkman," a restaurant-car train of eight or nine vehicles, reasonably fast and well within the engine's capacity, is, it is to be hoped, the forerunner of similar new trains in other areas, one of those "shorter trains and more of them" advocated by *The Railway Gazette*. Its return from Norwich, at 5 p.m., breaks a long gap between 3.50 p.m. and 6.28. A 12.20 p.m. arrival at Norwich may be too late for business before lunch and very early for lunch on the train, the 1.29 p.m. arrival of the 10.25 a.m. from Liverpool Street being commercially almost as good. A 9.15 a.m. or 9.30 departure would have been welcomed by many, though the earlier 8.12 a.m. from Liverpool Street is noticeably better than early morning services out of other London termini, even if the timing is rather slow.

It is perhaps unfortunate that some of the most drastic decelerations in the Norwich service should have been of the 7.30 a.m. up and 5.16 p.m. down, by 21 and 43 min. respectively; but some acceleration in the London area may be possible when things have settled down between Liverpool Street and Shenfield. The 85- and 90-min. schedules between London and Ipswich are quite creditable, given the necessity for punctuality through the suburban area.

Victorian Railways

THE report of the Victorian Railways Commissioners for the year ended June 30, 1949, records that, despite a record revenue, there was the greatest operating deficit (£2,734,119) in the history of the system, as a result of inadequate increases in rates and fares, coal shortage, and deficiencies in labour, materials and rolling stock. Yet goods and livestock ton miles, country passenger journeys, and suburban passenger journeys were 53, 76, and 22 per cent., respectively, more than in 1938-39, with slightly reduced train mileage. The following are the principal results:—

	1947-48	1948-49
Average miles	4,725	4,712
Train-miles	16,819,339	17,351,775
Passenger journeys	182,209,652	176,555,074
Goods and livestock, tons	8,439,760	8,859,016
Operating ratio, per cent.	93·28	103·14
	£	£
Passenger, parcels, etc., revenue ...	7,124,590	7,369,393
Goods and livestock revenue ...	7,991,815	8,596,154
Total earnings	16,321,544	17,273,809
Working expenses	15,224,793	17,815,540
Net earnings	1,096,551	−541,732

Mixed trains on country branches are being gradually replaced by diesel railcars. Duplication of part of the Gippsland line is being carried out to keep pace with industrial expansion in that part of the State, especially brown coal production, and experiments are being made with locomotives burning brown coal and briquettes. To ease the strain on Newport workshops, contracts were let to outside firms for locomotives and wagons, at a total cost of more than £4,000,000.

Strikes in the New South Wales mines adversely affected services. Six sleeping cars are being built by the South Australian Railways for the Adelaide-Melbourne joint service. Efforts are being made to recruit staff in Great Britain and a contract for components of prefabricated houses to accommodate them has been let to a British firm.

Orders include 50 "N" Class locomotives from the North British Locomotive Co. Ltd., and ten diesel electric shunting locomotives from The English Electric Co. Ltd. The question of the purchase of 18 1,500-h.p. main-line diesel-electric locomotives, the contract for which was cancelled because of the uncertainty over the granting of the necessary licence to import the American equipment, has been reopened.

In March, 1949, Mr. John Elliot, at that time Chief Regional Officer of the Southern Region, British Railways, arrived in Melbourne at the invitation of the Government to investigate and report on transport in the State (Mr. Elliot's report was summarised in our issue of August 5, 1949). Since the publication of the report and after the close of the year under review the Government has approved a general increase in railway charges.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Revision of Regional Boundaries

March 15

SIR,—I read with interest of the forthcoming changes in the boundaries of some of the Regions of British Railways. Several of your correspondents have commented on the effects of these changes, and I hope that some changes in the London Area will be effected, to improve the services on the London Midland suburban electric lines from Euston and Broad Street to Watford and Richmond. There seems to be no reason why these lines should not be taken over by London Transport; such a change would relieve to some extent the rush-hour congestion on the Metropolitan and Bakerloo lines.

It is a mystery why these lines are not shown on the Underground maps, not even at stations such as Gunnersbury and Willesden Junction, especially the former. The Broad Street-Richmond line appears to be the most neglected railway in London as regard publicity. As it serves such popular places as Hampstead Heath and Kew Gardens, one wonders whether the lack of passengers is due to infrequent trains, or *vice versa*. If it were publicised like the Underground lines, fares co-ordinated and through tickets issued to the Underground system, the authorities would soon have every reason to improve on the services on this line.

Travellers would save much time by using the old North London Railway, with interchange facilities not only at, say, Willesden, but also at West End Lane (West Hampstead, Bakerloo), Highbury, and Broad Street, right by Liverpool Street with its facilities for speedy electric travel to the Eastern and North Eastern suburbs.

One does not have to look far for the reason for the losses on British Railways if the North London is a typical part of its London Midland Region.

Yours faithfully,

G. LEISER

10, Arkwright Mansions, N.W.3

Links Between Track and Train in A.T.C.

March 25

SIR,—The letter from Mr. Downes in your March 24 issue raises the interesting point of railway applications for radar, and speaks of the advantages of radar technique from the Operating Departments' point of view. Presumably the form suggested would be what became known towards the end of the war as "secondary radar," that is, radar relying on some form of responder beacon to retransmit interrogating pulses, instead of depending on simple echoes. This would enable the response pulse to be given a particular shape, according to the aspect of the signal with which the responder beacon was associated. I think it should be remembered, however, that radar of this type provides not only a means of sending messages to a moving train, but also shows the distance and direction from which they are coming. Is this latter feature required in an A.T.C. system, and if not, why use radar instead of ordinary radio?

I agree that radar transmitters on locomotives in association with responder beacons on the last vehicles of trains might save collisions in fog in the event of signals being overrun, but this is a "last ditch" defence against accidents which reliable A.T.C. ought to make unnecessary. Another means of warning a driver that he is overhauling a train on the same track might be the phase discrimination system suggested by Mr. Downes. Presumably the phase difference between the transmitted and reflected signals would change with decreasing distance, so that a continuous warning of approach to an obstruction could be combined with measurement of its proximity.

These warning systems seem valuable mainly if signals are overrun, or if they have failed and drivers are proceeding under "stop and proceed" rules in bad visibility. Alternatively, they would be essential if it was decided to do away with signals altogether and make the presence of another train within a certain distance the only controlling factor. Would such a principle meet all the conditions in which a check on speed or a stop is necessary?

Yours faithfully,

B. K. COOPER

11, de Vere Walk, Watford

Travel in England and America

March 15

SIR,—Referring to Mr. V. Boyd-Carpenter's letter of February 8, in your February 24 issue, regarding "Travel in England," we can truly appreciate the swivet in which this estimable finds himself. However, it is our suggestion that he ride either or both the Lake Street "L" in Chicago or one of the Rock Island's evening suburban trains. Then let's hear what he has to say on the subject of rail transportation.

Yours truly,

WILLIAM B. GOBEL
GEORGE T. GRADER

1849, Nashville, Chicago

Wagon Turn-Round

March 4

SIR,—I should like to offer my congratulations to Mr. H. Bell and "Traffic Apprentice" for ably taking Mr. E. R. B. Roberts to task on the subject of large wagons. May I add my contribution to the battle, and in some measure assist in returning the jack into the box of which Mr. Roberts periodically unfastens the lid, and which even editorial comment has failed to fasten down once and for all?

The gist of Mr. Roberts's argument appears to be that if the railways provided the larger wagons he advocates, most of the transport difficulties between loader and user would be excised, to the benefit of all concerned. But would they? One of the factors which militates against the use of large wagons is the state of the permanent way in the private sidings where so many of them are loaded and unloaded. For example, in the majority of the colliery yards in the West Riding, Derbyshire and Nottinghamshire, from which a substantial quantity of the country's coal comes, the track has received little, if any, attention since it was laid forty and more years ago. Broken chairs, loose and missing fish bolts and keys, spread gauge, rails almost devoid of head, bad joints, split and decayed sleepers with voids underneath, loose fastenings, and very sharp curvature are much in evidence. It is doubtful whether the track would stand up to the punishment of the larger wagons with their increased loads, although a reasonable life by industrial standards may be expected by the use of existing types of wagon. The problem of buffer-locking on curves must not be overlooked, either.

As for the unloading end, may I say that, as a member of the staff of one of the largest steel producing and engineering concerns in the country, with a considerable mileage of private lines, and its own stud of locomotives, I am in a position to give Mr. Roberts some first-hand information. We have curves in our works which compel the use of four-coupled tank engines; anything of greater wheelbase is barred on account of possible derailment. We have curves on which it is impossible to couple or uncouple the standard three-link coupling on the ordinary 10/15-ton wagon; and round which the inside buffer springs are in compression, even when the wagons are drawn by the engine. With wagons of anything greater in the way of wheelbase, the problem of buffer-locking is ever before us. Wagons of the "quint" type, of which we use quite a number, have to be handled as individual

units if propelled, or fitted with an extra coupling chain to be drawn.

Although there is a lot to be said for the use of large mineral wagons, I would suggest that Mr. Roberts direct his, at present, misguided missionary zeal on the mines and works, with their large mileages of private lines, where he might accomplish something which the railways would be only too willing to follow up. He will enlist precious little sympathy for his cause at present if he persists in hurling brickbats at the railways and their "toy" trains.

Also, I would remind Mr. Roberts that the conditions overseas, and the conditions in this island are so widely different as to defy comparison, and it does not follow that what may be successful in South America will automatically be successful here. Finally, have not those who pay the piper, to have some say in calling the tune?

Yours faithfully,

D. J. WORRALL

27, Nether Edge Road, Sheffield 7

British Railways Standard Locomotives

February 23

SIR,—The publishing in your issue of December 16, 1949, of the photographs and descriptions of the proposed new cab layout for future designs of locomotives of British Railways cannot but cause consternation on the Western Region, whose drivers and firemen have always been accustomed to driver's position on right-hand side and fireman's on left-hand. No fireman who has been trained to fire from the left-hand side can take easily to firing from right hand, so that this misery will be added to the anxieties of a strange type of engine, with every control out of its long-accustomed position.

The L.M.S.R. 2-8-0s and Austerities have always been hated for this feature by Western drivers and firemen, and most firemen have had to fire them from the driver's side, which may be permissible on a goods, booked at comparatively low speeds but would be awkward, if not dangerous, on a fast passenger train under some circumstances. The driver, on whom the safety of the train depends, will have much unnecessary anxiety and discomfort thrust on him. Western Region signals are sighted for right-hand drive, and the drivers have for generations run to landmarks taken on the right-hand side.

Even on the goods turns mentioned, accidents have happened because of drivers missing their usual landmarks, through being on the left-hand side and signals not being sighted as soon, as clearly, or at the same angles, as with the usual right-hand drive. There is a strong case for retaining the right-hand driver's position on all engines destined for the Western Region and the men would not be out of order if they demanded it.

Pull-out regulators are poor things to handle, compared with the well-lubricated regulators of Swindon with their handles set at the best angle for comfortable and sensitive control. The reversing wheel strikes one as poor compared to the Swindon and Stanier L.M.S.R. catch handle screw control. A single damper will never do if South Wales coking steam coal is to be used, and the L.M.S.R. sliding firedoor, with its roughly-finished and unsightly handle is no substitute for the Swindon door which slides easily, and has a well-finished handle and a convenient chain on the bottom flap-plate. Handles on a whistle control are a curse and always get red hot in warm weather. Chains are more convenient in every way.

The L.M.S.R. brass handwheels for steam-valve controls are noted for their heat and discomfort, and a cloth must be used to save burning the hands when manipulating them. The G.W.R. handles with their cool wooden hand pieces are far better. For right-hand fireman's position the firedoor lever should be on the right-hand door and not left-hand, or the fireman's arm is exposed to great heat when he goes to close the doors.

The blower wheel is in a bad position for the fireman. The new pattern vacuum brake valve banjo will surely collect and suck in all the dirt and grit that falls on it and cut its face to pieces in a short time. A small ejector is a poor substitute for a crosshead driver air-pump, wastes water and steam, is affected by priming and lets the brake drag if the boiler is steaming badly, thus adding to the crew's difficulties and anxieties—and why a steam brake?

A stainless steel food locker may be pretty but where are tea cans and dishes of dinner to be warmed with no firebox top or steam fountain to put them up on, as is the invariable custom of footplatemen?

The only redeeming features, I consider, are the Great Western gauge frames and gauge lamp (water gauge). With due respect, if this is the best the Executive can offer, many prefer the designs of their own Regions to be perpetuated and the cab layouts they are used to and at home on with any additional comfort that practical men can suggest. There is a great deal to be said for Regional design and engines built for the roads and loads they are to work on and according to the class of fuel that will be used. Why ignore the experience which years of experiment and study has taught on the G.W.R., L.M.S.R., L.N.E.R., and S.R., and why overrule those who have to run the engines?

Yours faithfully,

A. J. MAXWELL

29, Courtenay Park, Newton Abbot

Limitation of Railway Speeds

March 26

SIR,—Mr. G. F. Thomlinson, in his letter in your issue of March 24, seems a little worried about the limitations of railway speeds. I wonder if he has ever given a thought to the implications hinted at in the last words of my letter of January 12.

Nearly all the railways in the world are operated as if no competition existed on the roads. Passengers are assembled at a 'Central' station in one town to be conveyed in vehicles—apart from a few known trains here and abroad—with a seating arrangement developed 100 years ago and derived from the old stage coaches, for dispersal at another 'Central' station in another town. No one seems to appreciate that the advent of the motorcar and coach has meanwhile extended the district served by the 'Central' station so far that it is often not worthwhile to take all the trouble with change of transport and all that costs for a railway journey as motorcar or coach may do the same service in about the same time with the offer of similar comfort without change of vehicle.

Here is where the limitation of speed comes in. Railways must and can from a certain point onwards give a better, far better, service because their speed limitation, as I said in my letter, is double the speed of road traffic.

Railway speed is dependent on certain technical conditions, the speed of the motorcar and coach is at the present stage of technical development dependent on the average human reaction time, an unalterable physiological factor, as long as road vehicles are not yet steered automatically as rail vehicles are. A-mile-a-minute coupled with comfort and cleanliness, pleasant rooms instead of packed shelves and crates, and attention to the inherent inconveniences of change of transport means, will go a long way in bringing co-operation instead of senseless competition between the slow though versatile (50 m.p.h.) distributor, the road vehicle, and the rapid though track-bound (100 m.p.h.) long-range mass conveyor, the railway train.

Yours faithfully,

W. JACOBSOHN

76, Elgin Crescent, London, W.11

SCOTTISH SOCIETY OF STUDENTS OF THE LOCOMOTIVE.—A general meeting of the Scottish Society of Students of the Locomotive took place on Friday, March 3, in the boardroom, British Railways Scottish Regional Headquarters; Mr. William Robertson was in the chair. Mr. O. S. Nock, who delivered a paper entitled "The Art of Engine Driving," dealt with the subject in the light of his own experiences on the footplate, and illustrated his paper with lantern slides of locomotives, diagrams, and graphs.

THE SCRAP HEAP

Road Haulier on Railway Charges

I am an independent haulier due to be ground down by permit restriction. I think carriers should have bonds of affinity, and the railways are fair competitors. This railway deficiency is a sort of pay-off for conditions that started 25 years ago.

Most railway freight rates are brutally low, as traders are always pointing out to road hauliers. The proposed increase is very much against us. It is opposed with impudence by traders who have increased their own prices by anything from 100 to 500 per cent.

There is going to be no long-term security for the road haulier until these railway problems are settled. The man in the street is beginning to realise that £50 million loss means extra taxation of 2s. per family per week.

It is easy to say that railway management is poor, for you are right and wrong in the same breath. So complex are these vast and *continuous* organisations that it takes more brain power to run them badly than would run ordinary businesses well. In management they present a problem utterly different from that of any other industry

Railway officials are polite and charming but they lack that touch of arrogance a real driving boss must possess. Few of them reach senior positions until a few years before retirement, and they are so poorly paid as to have too much in common with their subordinates. Worst of all, promotion is too often tied up with seniority, so that there is no inducement to brilliance. The railway official is inevitably trained as a team worker.

I blame industrialists for the present state of the railways. For their own short-sighted purposes they bound the railway Gulliver with thousands of little cords. In a century of "Horse-dealing" they have used both Parliament and railway directorships to get cheap freight transport. Now the bill is being presented for someone to pay. Will it be the trader or the taxpayer?

There has never been any free enterprise in a railway system where the railways had no control over their own prices other than in the downward direction. It is a beautiful theory that customers should be consulted before price increases are made, and the proceedings before the Railway Rates Tribunal are a dignified version of the haggling one expects to see in an Oriental bazaar. But the Oriental starts a lot higher than he expects to finish, whereas the railways dare only ask for the bare minimum, and the traders take good care the railways only get a portion of what they ask.—"*Damocles*" *in* "*Motor Transport*."

The covers of a useful and well-designed folder issued by the North Eastern Region. The reverse side has details of the train services

Time Lag

(One face of the main clock at Waterloo is temporarily without hands)

What a to-do
At Waterloo!
"Old Time has fled"
Is what they said,

As anxious eyes,
In wild surmise,
Gazed at the face
From which all trace
Of time had gone.

What's to be done?
A vacant dial
Is such a trial,
With not a chime
To tell the time.

But some small good
May yet intrude.
This timeless state
May speed our rate

And so contrive
That we arrive,
Calm and serene
Upon the scene.

Time's masters we
For once, may be,
As, without strain,
We catch our train.

A. B.

Arrival of "Dunrobin" at New Romney

The 0-4-4 *tank engine "Dunrobin," which was formerly owned by the Duke of Sutherland and referred to on this page of our March* 31 *issue, arrived at New Romney on March* 28 *for exhibition on the Romney, Hythe & Dymchurch Railway*

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

RHODESIA

Financial Results

Receipts for the nine months ended December 31 last totalled £7,488,960, an increase of £995,929 compared with the corresponding period of 1948. Expenses for the period amounted to £6,000,933, or £1,046,596 more than in 1948, leaving a net operating revenue of £1,488,027, which was £50,667 less than in the previous year. Coaching receipts in December, 1949, amounted to £116,883, a record figure.

Tourist Traffic

In February, 276 passengers from the luxury liner *Caronia* visited Southern Rhodesia, and of these, 236 were conveyed to the Victoria Falls by special trains.

EAST AFRICA

Opening of Dodoma Hotel

The new railway hotel at Dodoma, Tanganyika, was formally opened by Mr. J. R. Farquharson, Chief Engineer, E.A.R. & H., on March 8. Also present at the ceremony were Mr. L. Martin, Assistant Chief Engineer, Tanganyika, Mr. A. J. R. Master, Assistant Superintendent (Hotels & Catering Services), and some 200 guests. The hotel, designed and built by the Engineering Department, will meet a great need, as Dodoma is not only an important station on the Tanganyika Central Line, but is also situated on the main north-south road route between the East African territories and the Rhodesias.

Traffic Receipts

Receipts from all services, including railways, harbours, road services, inland waterways, and ancillary services, for the year 1949, amounted to £10,629,676, which represents an increase of some £1½ million over the previous year. Total working expenditure for the same period, including contributions to the renewals fund, was £7,693,128. The ratio of working expenditure to revenue was 72·37 per cent.

The level of earnings has continued to rise since the beginning of the current year. During the period January 1 to February 28, 1950, total revenue from all sources averaged £153,881 per week, as compared with a figure of £142,688 per week for the same period in 1949.

Traffic Through Mombasa

The volume of import traffic passing through the port of Mombasa continues to be maintained at a high level. In January and February, 1950, a total of 186,037 deadweight tons of cargo was landed at the port, including 27,939 tons of cement and 1,106 motor vehicles. 135,077 tons of traffic was conveyed by rail up country from Mombasa during the same period, including 20,019 tons of cement and 898 vehicles. In addition, a considerable tonnage was cleared from the port by rail for local delivery. At the beginning of March, there was some 19,000 tons of import cargo on hand, of which only 9,000 tons had been cleared through the Customs ready for conveyance.

PAKISTAN

Oil-Burning Locomotives

The programme of converting locomotives to oil burning was accelerated in January by reason of the cessation of coal supplies from India. Some 50 per cent. of the locomotives on the North Western Railway are now oil-burning. The Eastern Bengal Railway has begun conversions.

Expansion of Chittagong Port

The expansion of the Port of Chittagong, which serves East Pakistan, continues. The result of the work so far carried out is shown by the increasing capacity. In January the volume of imports and exports reached the record level of 120,000 tons, the wartime and pre-war monthly average being only 52,000 and 42,000 tons. The ambitious plans for the long-term expansion of the port are being completed and the work will begin shortly.

WESTERN AUSTRALIA

"Passenger Freighter" Bus

In November, 1949, the Goverment Railways placed in service a type of combined bus and van, known as a "passenger-freighter." It was designed by the Road Services Engineer and constructed in Perth.

It combines a 14-seat passenger bus with a 3-ton goods compartment in one all-steel framed body panelled with aluminium, and is 31 ft. long overall and 8 ft. wide. The front section is divided into two compartments and fitted with sponge rubber seats to accommodate 14 passengers. The rear portion is sealed off from the passenger compartment, forming a van of 3½-ton capacity. A Dennis 6-cyl. diesel engine is mounted on a Dennis chassis.

The interior furnishing of the passenger section is completed with brown leather upholstery and chrome-plated metal work. Electric lighting is provided at each double seat, extractor fans in the ceiling give automatic ventilation, and a supply of iced water is carried for drinking purposes. The exterior is painted cream and green, with the service insignia on each side.

Other buses of this type are being supplied, some of which, of similar appearance, will have seating for 18 passengers and a van capacity of 3 tons.

These buses are being operated by the Department to provide fast schedules for passenger traffic, mails, perishables, parcels, and luggage between Perth and isolated country sections.

QUEENSLAND

Proposed Line to Callide Coalfield

To meet the expected output of 5,000 tons of coal daily from the Callide coalfield—five times the present figure—a railway is likely to be recommended to the Commonwealth Governments for immediate construction. It would run from Calliope, on the inland loop line from Maryborough to Boyne Valley Junction, some 40 miles to the Calliope hills. Boyne Valley Junction is 4½ miles north-west of Gladstone, both being on the main line, a section that may have to be

Combined bus and van operated by the Western Australian Government Railways Road Services

doubled. Calliope is about 10 miles from Boyne Valley Junction. The existing station at Callide on the Rockhampton-Lawgi branch line is not only unsuitable topographically for the coal traffic, but remote, and the route thence would be roundabout.

Suggested 130-mile Conveyor Belt

To carry coal from the Blair Athol field to the coast, a conveyor-belt system, 130 miles in length, has been suggested. Such a length is considered feasible in the United States, and is considered more economical than a railway in favourable circumstances.

CEYLON

Pilferage of Goods

The final figures relating to compensation paid during 1949 for goods lost in transit disclose that the efforts made to arrest the increasing losses, which had assumed alarming proportions in 1945 and 1946, have met with conspicuous success.

Consignors had always felt that goods entrusted for rail transport were reasonably safe in transit, but with the abnormal conditions created by the war, pilferages from warehouses, stationary wagons in goods sheds and yards, and trains running became daily occurrences. Scarcity of goods, both imported and locally produced, made prices soar, and with supply far short of demand, measures had to be introduced to conserve available stocks of all commodities and regulate their distribution. This inevitably led to large-scale pilferage.

One daring and successful method adopted by thieves was to break open wagons on moving trains at or near pre-arranged wayside spots, generally in jungle areas, and throw out packages. This menace assumed such proportions that the railway organised a special investigation branch to work in liaison with the police, and in 1946 inaugurated a Railway Security Service.

As a further counter to the extensive thefts from wagons, especially while trains are running, many devices were designed, and tried out, with remarkable success; one is a special type of hinged cotter and time lag bolt for securing wagon doors. In this manner losses were minimised and the situation is now almost normal. Another method now being tried out is a vacuum-operated automatic locking appliance on wagons, which ensures that, in the event of an attempt made to open the doors of a wagon on a train in motion, the vacuum is automatically destroyed, bringing the train to a stop.

CANADA

C.N.R. Duplex Roomette Car

The first duplex roomette sleeping car built for Canadian National Railways went on display at Montreal Central Station on March 16 before starting service on a main-line run. Twenty cars of this type will be delivered to the C.N.R.

There are 24 roomettes in each car, 12 at floor level and 12 raised two steps higher. Each room is completely private, having its own facilities such as wash basins, water cooler, and medicine cabinet. The occupant can control the room temperature, ventilation and lighting, and the air conditioning of the room. There is a wide window to provide full view of the scenery, foldaway ash trays, and a foam rubber-type seat. When completed, each car of the series will bear a Canadian place-name beginning with the letter "I."

JUGOSLAVIA

Improved Services

Services are to be increased by 20 per cent. from May. The number of fast trains is to be increased on the main lines Belgrade-Zagreb, Zagreb-Ljubljana, and Zagreb-Rijeka (from at present four daily in each direction on the first-named, and two daily in each direction on the other two lines), and for the first time a through connection between Zagreb and Split is to be established *via* the new line from Bosanski Novi to Bihac and Knin (connecting at Knin with the older Zagreb-Split main line).

The operation of railcars between Belgrade and Sarajevo on the 254-mile narrow-gauge (2 ft. 5⅞ in.) line *via* Lajkovac, Cacak and Titovo Uzice, the pre-war route of the railcar known as the "Mad Sarajevan," is to be resumed. Railcars will also work between Sarajevo and Dubrovnik, 174½ miles, on the narrow gauge.

For the first time, through trains are to operate between Belgrade and Pec, the chief town of the autonomous Kosmet region (Kosovo-Metohija) adjoining north-eastern Albania. It has not been disclosed whether they will run *via* Lapovo, Nish and Prishtina, or Lapovo, Rankovicevo and Kosovska Mitrovica.

Many through coaches will be introduced, largely dispensing with the frequent changes necessary on long journeys not entirely on main lines.

Publications Received

Où En Est le Chemin de Fer? (The Railway Outlook in France).—The financial situation, reconstruction, and operation of the French National Railways are described in this 64-page brochure, with diagrams and statistical tables, issued by the French National Railways (S.N.C.F.) in Paris. M. Louis Armand, General Manager, contributes a preface. Operating expenditure in 1948, with a traffic increase of 48 per cent., was 9 per cent. less than in 1938, staff 9 per cent. fewer, and passenger train-kilometrage reduced by 52 per cent., resulting in reduced coal consumption and better turn-round of rolling stock. The brochure shows how in 1948 the rise in prices, wages, and operating expenditures of the railways actually doubled costs in comparison with 1947, and expenditure rose from 146 to 283 thousand million francs without any corresponding rise in transport rates, with the result that receipts fell off faster than expenditure could be cut down. The S.N.C.F. maintains that if the railways are a charge on the national budget, they also bring in revenue; they pay taxes and grant fare reductions to certain categories of passengers in the national interest, which together amount to two-thirds of the railway deficit. Either, it is pointed out, the railways must remain the instrument of a policy for maintaining prices and defending the currency in a planned economy, or they must be allowed to balance their budget in the same way as ordinary commercial enterprises.

Alloy Metals Review.—The December issue of *Alloy Metals Review*, published by High Speed Alloys Limited, Widnes, contains an illustrated article by Dr. E. J. Sandford, of Hard Metal Tools Limited, on sintered hard metals containing titanium carbide; this article discusses the use of titanium carbide in conjunction with tungsten carbide and cobalt in the production of alloys for machining steels of all types, and problems of production.

Summer Holidays in France.—A rich diversity of scenery and climate in France and Corsica is offered in the 1950 programme of Thos. Cook & Son Ltd. Escorted tours and independent holidays, with motorcoach tours both within and in transit through France, range from Paris to the Pyrenees and Picardy to Provence, and include regions as varying as the spas of the Massif Central, the Alps of Savoy, and the fishing villages of Brittany. There are notes on individual hotels and holday resorts and some useful travel information. Many of the towns and villages listed recall memories of the last war, while a separate pamphlet gives particulars of the visit to St. Nazaire on the occasion of the tenth anniversary of the evacuation in June, 1940.

Philips Sound Reproducing Equipment. Philips Electrical Limited, Century House, Shaftesbury Avenue, London, W.C.2, has published an illustrated brochure on sound reproducing equipment for use in factories, hospitals, schools, ships, sports grounds, and so on. The brochure outlines the four main uses of such equipment in a works or institution: control, for contact between management and staff; administration, for location of staff; welfare, for announcement of social events and broadcasting of music; and safety, for keeping control in an emergency.

Underground Railway Planning in Canada

Comprehensive plans for subways in Toronto and Montreal to relieve traffic congestion and cater for increasing population

THE growth of the city of Toronto, which in 1943 had a population of 925,000, and its serious street congestion, impelled the Toronto Transportation Commission, in 1942, in collaboration with Mr. Norman D. Wilson, a Toronto consulting engineer, and the well-known Chicago firm of De Leuw, Cather & Company, designers of the Chicago subway, to begin studying the question of a rapid transit system.

The project envisages the construction first of an underground railway below and alongside Yonge Street (the main north - south thoroughfare), between Union Station and Eglinton Avenue, 4·6 miles.

Stations are to be provided at Union Station, and along Yonge Street at King, Queen, Dundas, College, Wellesley, Bloor, Rosedale, Summerhill, St. Clair, Davisville, and Eglinton. The section south of College Street will be a reinforced concrete rectangular structure with clearances ample for 10 ft. wide cars. North of College Street the alignment will be largely in an off-section location, with the tracks about 16 ft. below street level, with one-mile-and-a-third in open cut. The maximum gradient will be 1 in 29. Platforms 500 ft. long are planned.

Provision of Escalators

At stations where the length of stairways is excessive, escalators, totalling 17 in number, will be provided. At Queen Street Station the portion of the proposed Queen Street subway, referred to later in this article, will be built simultaneously with the Yonge Street subway. At Bloor Street an above ground tramway station is to be built to allow of easy interchange between tramcars on the cross-town Bloor Street routes and the Yonge Street subway. The Eglinton terminus will have an island platform with stairs leading to a tram and bus station at street level. On completion of the subway, tram tracks will be removed from Yonge Street, but tram routes feeding it will be modified and equipped with modern cars.

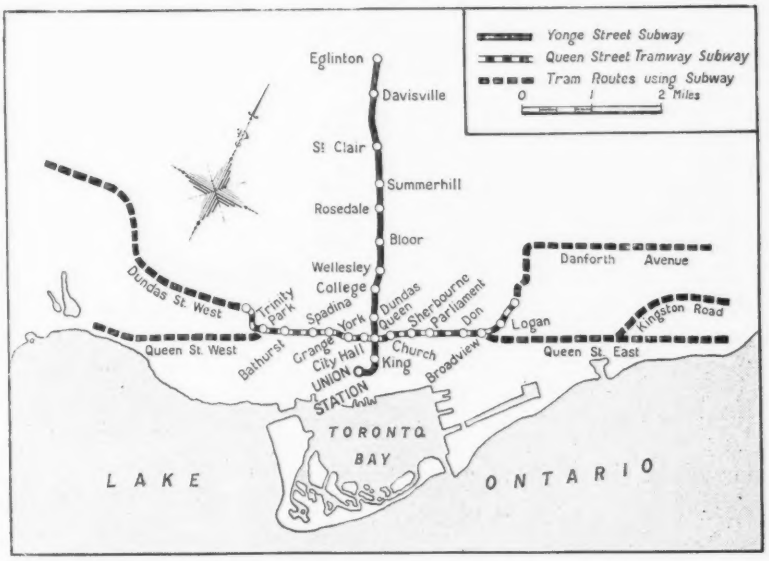
The second line planned, the Queen Street subway, will run at right angles to that below Yonge Street. It differs from the former in that for some years it is intended to operate it by P.C.C. type tramcars, of which many are already in service on existing surface routes. The sections in open cut will be west of University Avenue and east of Church Street in the rear of the Queen Street frontage, connected by a subway beneath Queen Street between University Avenue and Church Street, crossing the Yonge Street Line about midway. In general the construction will be similar to that of the Yonge Street subway, except that there will be an elevated structure across the Don River. Extensions will be built both east and west to connect with existing street tramways. The total length of the new construction, including these extensions, will be 4·5 miles.

There will be stations from west to east, at Trinity Park, Bathurst, Spadina, Grange, York, City Hall, Yonge, Church, Sherbourne, Parliament, and Broadview. There may be a further station near the Don River to afford interchange with the C.N.R. and C.P.R. The total estimated cost of the Yonge Street project was $24,045,000, plus another $4,805,000 for fixed subway equipment, and of the Queen Street project $19,300,000, including fixed equipment.

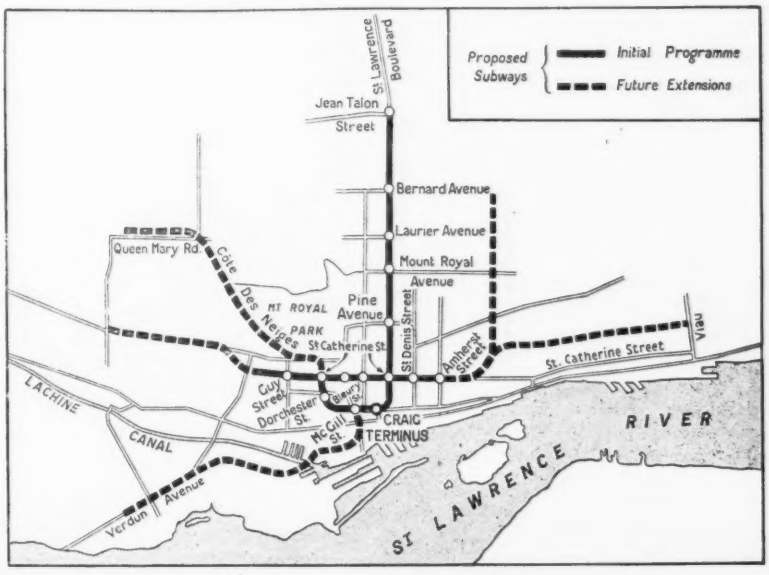
Cut-and-Cover Construction

The subway sections in the "downtown" parts of Yonge and Queen Streets will be built on the cut-and-cover principle, with the sides of the excavations sheeted and thoroughly

(*Continued on page* 401)



Rapid transit system planned for Toronto. Construction has begun on the southern section of the Yonge Street line



Proposed underground railway network in Montreal

Development of the Kenya & Uganda Railway—2

Last years of independent existence marked by financial consolidation and a great increase in traffic

BY the end of 1931 all sanctioned projects for new railway construction had been completed, although plans for additional branch lines and for the extension of the main line beyond Kampala westwards towards the Belgian Congo were under consideration. The world economic depression halted further development, and the administration was obliged to introduce a policy of the strictest economy and retrenchment.

A difficult and thankless task faced the new General Manager, Brigadier General (now Sir) G. D. Rhodes, who had succeeded Sir C. L. N. Felling on the latter's death in 1928. During the previous decade the transport system of Kenya and Uganda had advanced far beyond the general development of the two territories, and one result of the construction programme that had just been completed was to saddle the railway with a heavy burden of loan charges, which were high in relation to traffic density.

Railway Finances

The finances of the railway were well on the way to recovery by 1934, and in 1935 they had improved so much that it was possible to effect substantial rates reductions, amounting to some £168,000. In the same year a comprehensive review of the railway tariff structure was carried out in the light of Mr. Roger Gibb's report on Railway Rates & Finance in Kenya, Uganda, and Tanganyika, published in September, 1932, but although Mr. Gibb had severely criticised the rating policy of favouring exports at the expense of imports, the decision was taken that the previous policy should continue to be followed as being in the best interests of the country.

During this period the railway was meeting with growing competition from road transport, particularly in the carriage of imported goods from the coast up-country. No other form of transport could move the bulk exports of the two territories so cheaply or so efficiently as the railway, but the situation was different with imported goods, as the railway was obliged by the nature of its tariff system to charge high rates for the carriage of these goods, which rendered it vulnerable to unrestrained and irresponsible undercutting by road transport operators.

The railway was already subject to legal control, the Railway Ordnance of 1927 laying down the principles of management to be followed, as well as its responsibilities and liabilities as a common carrier. Its tariff structure, in which the low rates charged on export commodities had to be compensated for by levying higher charges on imports, was fixed; it could not be readily adapted to combat unregulated competition from other hauliers. It was therefore unfair and undesirable that road hauliers should be allowed to operate without legal restriction. What was needed was a scheme for the co-ordination and control of all forms of inland surface transport, and, mainly as a result of Brigadier General Sir H. Osborne Mance's report on the Co-ordination of Transport in Kenya, Uganda, and Tanganyika, published in 1936, the necessary legislation to achieve this object was eventually enacted.

South portal of Gilgil Tunnel, Nairobi-Nakuru realignment

In the remaining years before the second world war, the strengthening and consolidation of the financial and physical condition of the railway went on steadily. The tariff system was improved and further rates reductions were effected, mainly in the higher classes, amounting to some £200,000 in 1936, £155,000 in 1937, and £146,000 in 1938. Passenger fares and freight rates were lowered.

The outbreak of war found the railway fully prepared to meet all demands. The traffic capacity of the system was, in 1939, considerably in excess of existing requirements, but the wisdom of this policy was shown during the war when the railway was called on to handle an unprecedented increase in traffic with little additional resources of staff or equipment. By 1944 the number of passengers carried had increased to three times that of 1939, and the tonnage of goods by over twice the pre-war quantity. Still greater increases have been recorded in the years since the war; in 1948 a total of 2,936,285 tons of goods and 3,320,830 passengers was carried.

East African Railways Formed

The Kenya & Uganda Railway as an independent organisation came to an end in 1948 with the formation of the East African Railways & Harbours. The responsibility for the administration of the amalgamated railways is vested in the East Africa High Commission, composed of the Governors of Kenya, Uganda and Tanganyika. The executive functions of the High Commisison with respect to communications are exercised by the Commissioner for Transport, who is assisted by a Transport Advisory Council representing these three territories.

Without the railway there would have been no white settlement, no advance from the conditions of fifty years ago when the country was peopled with a few backward and primitive tribes, living in a perpetual state of internecine warfare, famine and disease. The railway brought security, peace and the benefits of modern civilisation, and made possible the establishment of a flourishing European community. The following quotation from a speech by Sir Edward Grigg (now Lord Altrin-

(*Continued on page* 401)

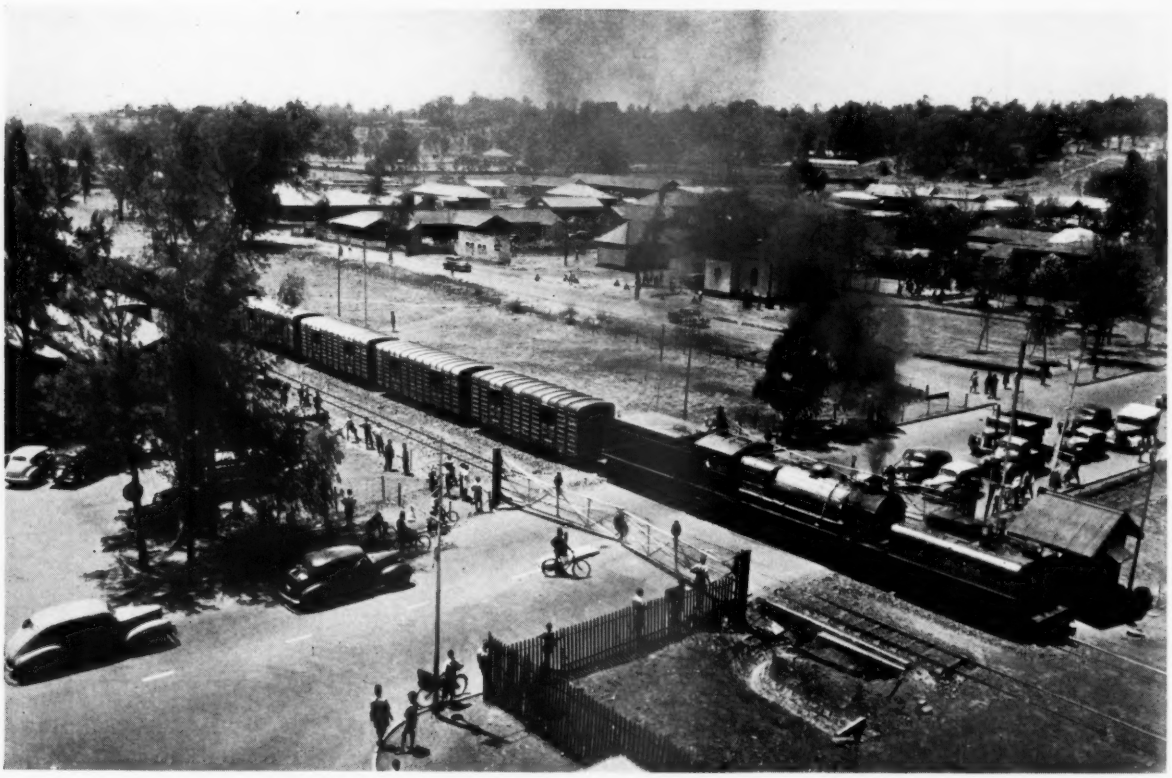
Development of the Kenya & Uganda Railway—2

Aerial view of Kilindini deep-water quay, Mombasa

The railway area of Nairobi showing: (centre foreground) locomotive shed: (left background) workshops and stores department: (centre background) railway headquarters and goods depot

Realignment at Nairobi, East African Railways

The first train over the realigned section between Nairobi and Kikuyu, East African Railways, passing under the new bridge carrying the Nairobi-Mombasa road



The last train passing over Delamere Avenue Crossing, Nairobi, on old line, before opening of Nairobi-Kikuyu realignment (*see paragraph in our March* 17 *issue*)

Rolling Stock for the G.N.R.(I.)

Restaurant and buffet cars recently placed in service incorporate a number of improvements

NEW rolling stock, consisting of a restaurant car and buffet car, was recently placed in service by the Great Northern Railway (Ireland). The cars, designed by Mr. H. McIntosh, Mechanical Engineer, in conjunction with Mr. C. Johnson, the Hotels & Catering Manager, were constructed at the Dundalk works. The restaurant car will be attached to main-line expresses and the buffet car will be used in the "Enterprise" non-stop expresses between Belfast and Dublin.

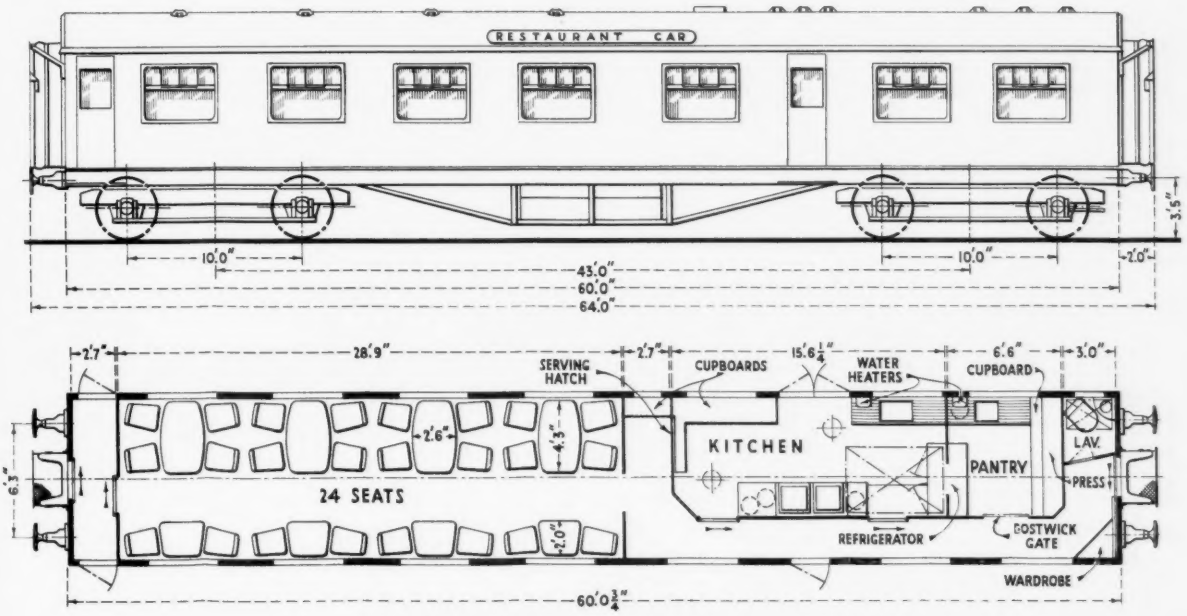
The restaurant car is divided into three compartments, a spacious saloon seating 24 passengers, a large kitchen, and a pantry. The sides of the dining saloon are finished in figured white sycamore and the ends in Australian walnut to contrast; the heating ducts, which run along the sides at floor level, are also finished in walnut. The ceiling is of ivory plastic and the floor of Korkoid in green squares with narrow cream surrounds. The windows are provided with brocade curtains housed in pelmets running the full length of the saloon; flower vases occupy the space between the windows.

The chairs are of sycamore with Dunlopillo cushions and upholstered in russet shade hide; the tables, which have chromium plated tubular legs, are of special plywood covered with Linette Formica, the edges of the tables being finished with aluminium and plastic moulding. A mirror is fitted to the partition at each end of the saloon. Ventilation is by means of Airvac roof extractors with chromium-plated interior grids. A clock is fitted over the door at the vestibule end of the saloon.

The side windows have the glass of the bottom portion fitted in Clatonrite section rubber frames; a sliding ventilator is provided in the top portion of each window. The drop window in the doors are of Beclawat balanced type.

The kitchen is provided with two Calor gas cookers and water heaters as

Restaurant car for use in main-line expresses between Belfast and Dublin



Principal dimensions and seating arrangements

well as the usual cupboards, presses and sinks. The entire inside finish of the kitchen, pantry and cupboards, is in Formica plastic with polished aluminium panels behind the cookers. The water supply is from a 120-gal. roof tank. The floors of the kitchen and pantry are of red Decolite. A service hatch with sliding shutter is situated at the end of the kitchen next to the dining compartment; the side corridor along the kitchen and pantry is finished in oak polished matchboarding.

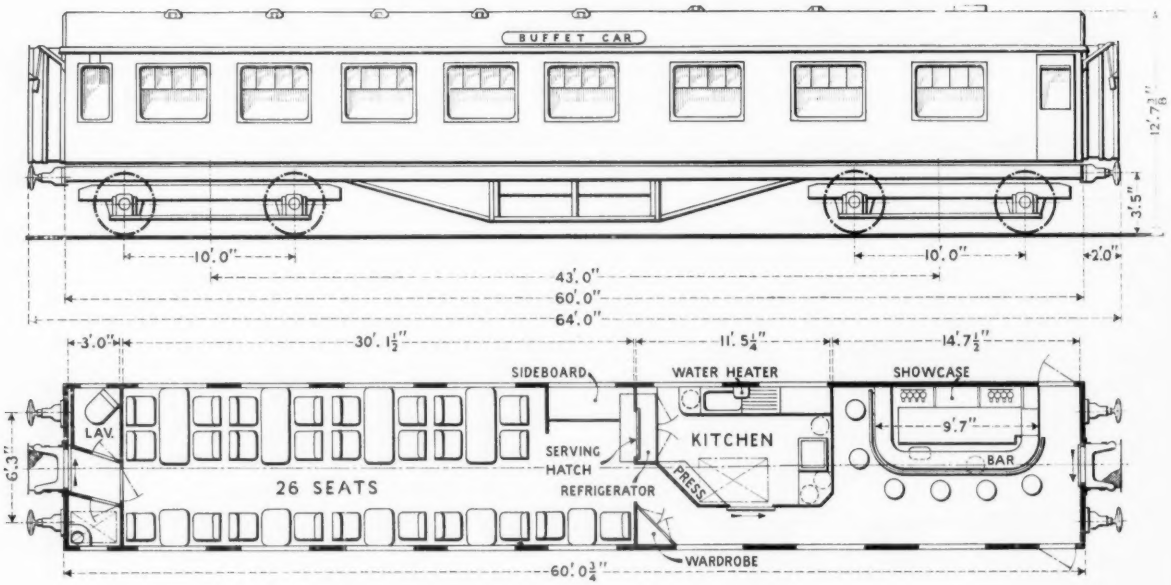
The buffet car also consists of three compartments, namely, dining saloon, kitchen, and bar. The interior finish of the saloon is of plastic in two shades of blue, the ends being in dark blue with mouldings of sycamore arranged vertically, the sides in light blue. The ceilings are of ivory plastic with sycamore mouldings running longitudinally. Pelmets, curtains, and flower vases are arranged along the sides. Seating accommodation for 26 passengers is provided, the chairs being of sycamore similar to the restaurant car, but upholstered in blue plastic.

The tables are of special birch plywood, polished and with aluminium and plastic mouldings, and have chromium-plated tubular legs. A sideboard is provided at one end of the saloon and serves as a cold table. Ventilation is on similar lines to the restaurant car. The kitchen is finished with walls in ivory Warerite with polished aluminium panel behind the cooker; the equipment includes a Calor gas cooker, water heater, presses, and cupboards, the latter being finished in white Warerite. A serving hatch with sliding shutter gives access to the dining saloon.

The bar compartment, which occupies one end of the car, is finished in dark blue, light blue, and grey plastics, the bar top being covered with Linette Formica, as also are the shelves and presses. Two four-bottle optic stands are fitted behind the bar, one for Northern Ireland, and the other for the Republic of Ireland. Six chromium-plated stools upholstered in red hide are situated around the bar which is surrounded by a chromium-plated handrail. The heating duct, which is at the bottom of the bar counter, acts also as a footrest. A shutter, in three parts, is fitted, which when lowered completely encloses the bar.

The electrical equipment in both cars is designed on Stone's constant-speed non-regulated double battery principle and is of the latest Tonum type, giving a maximum output of 100 amp. at 24 volts with a speed-range of 730 to 1,040 r.p.m., which necessitates a 20-in. Gripstone axle pulley and 4-in. dynamo pulley. The cut-in switch panel and resistances are mounted on the underframe. The battery consists of two 19-cell Nife nickel cadmium alkaline train

Buffet car for the "Enterprise" expresses of the G.N.R.(I.)



Principal dimensions and seating arrangements

lighting sets each having a capacity of 200 amp. hr. at the 10-hr. rate.

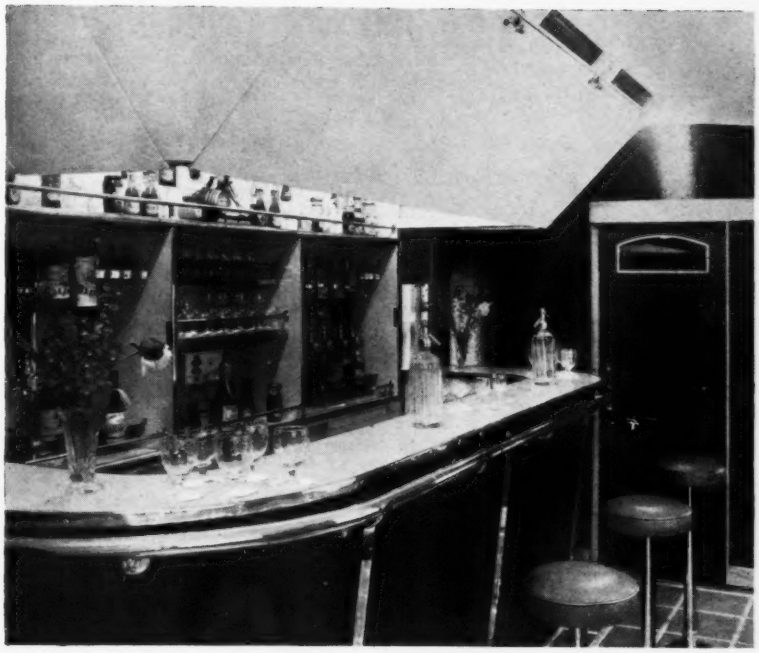
The interior lighting in the dining saloon of the restaurant car is from four Stone's enclosed roof fittings, chromium-plated finish, the glasses of which are standard Holophane Steplite glassware 11½ in. dia.; each of these fittings has four 20-watt lamps. The fittings are recessed into the roof so that only the glasses and their metal rings are visible.

A pleasing lighting effect is obtained with an even distribution of light over the tables. In the corridor there are four Stone's enclosed two-light roof fittings with Holophane standard Pagoda glassware, while in the kitchens and pantries standard Stone's Duriston fittings are used. The ventilation of the kitchen is effected by two Imperiston fans situated in the roof.

As is standard practice with all the restaurant cars a refrigerator is installed. This is a Frigidaire model of stainless-steel finish and having a capacity of 15 cu.ft.; the top of the refrigerator acts as a serving hatch, thus taking up the minimum amount of space in the kitchen.

In the case of the buffet car, dynamo and batteries are identical to those supplied for the restaurant car, but in the case of the saloon lighting there are five roof fittings. There is also another Frigidaire refrigerator of 12 cu.ft. capacity. The corridor and kitchen lighting, and the ventilation of the kitchen, are similar to the restaurant car arrangement; an Imperiston fan is fitted in the roof of the bar compartment behind the shutter, grids at the top of the latter allowing the foul air to be extracted. The lighting of the bar consists of four 20-watt lamps above the canopy, each having a white opal shade.

The dynamo and battery capacity in both cars is of abnormally high rating, but this is necessary due to the conditions under which the cars have to run.

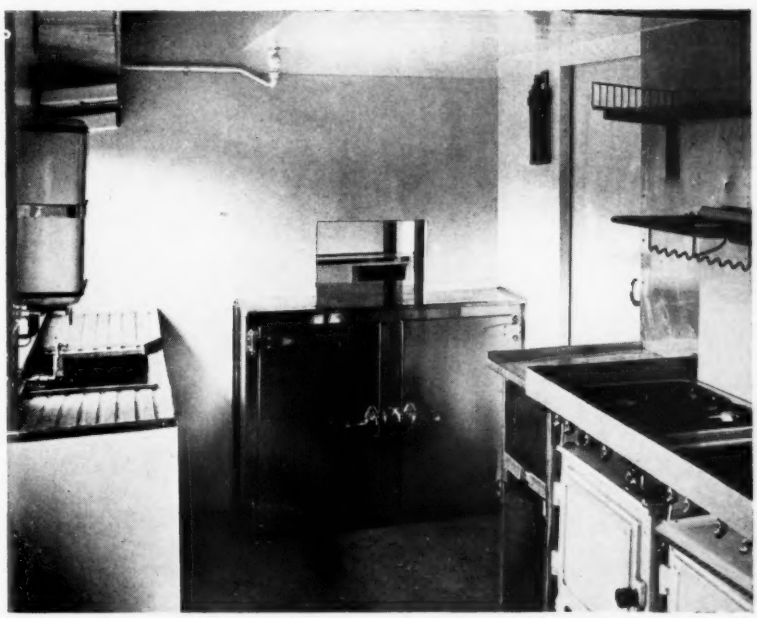


Bar in the buffet car

Both vehicles have channel section underframes and bogies, and also standard type suspended gangways, drawgear, and double buffers. Hoffmann roller-bearing axleboxes are fitted and these are of the pad location type. A feature of the design is that checks are provided on the inside of the axleboxes only, as this type of box takes thrust in the outward direction only. Suspension is by laminated springs over the axleboxes, supplemented by spiral springs on the spring links; the bolster suspension is by Timmis combined type springs. Bolster rubbing plates are of Ferodo; and Gresham & Craven Vapor heating is installed in both buffet and restaurant cars.

Leading dimensions of the carriages are as follow:—

Length over buffers	64 ft. 0 in.
Length over headstocks	60 ft. 0 in.
Width at waist	9 ft. 6 in.
Bogie wheel base	10 ft. 0 in.
Height from rail to top of roof	12 ft. 7⅞ in.
Weight of restaurant car	31 tons
Weight of buffet car	30 tons



Part of the kitchen in the restaurant car

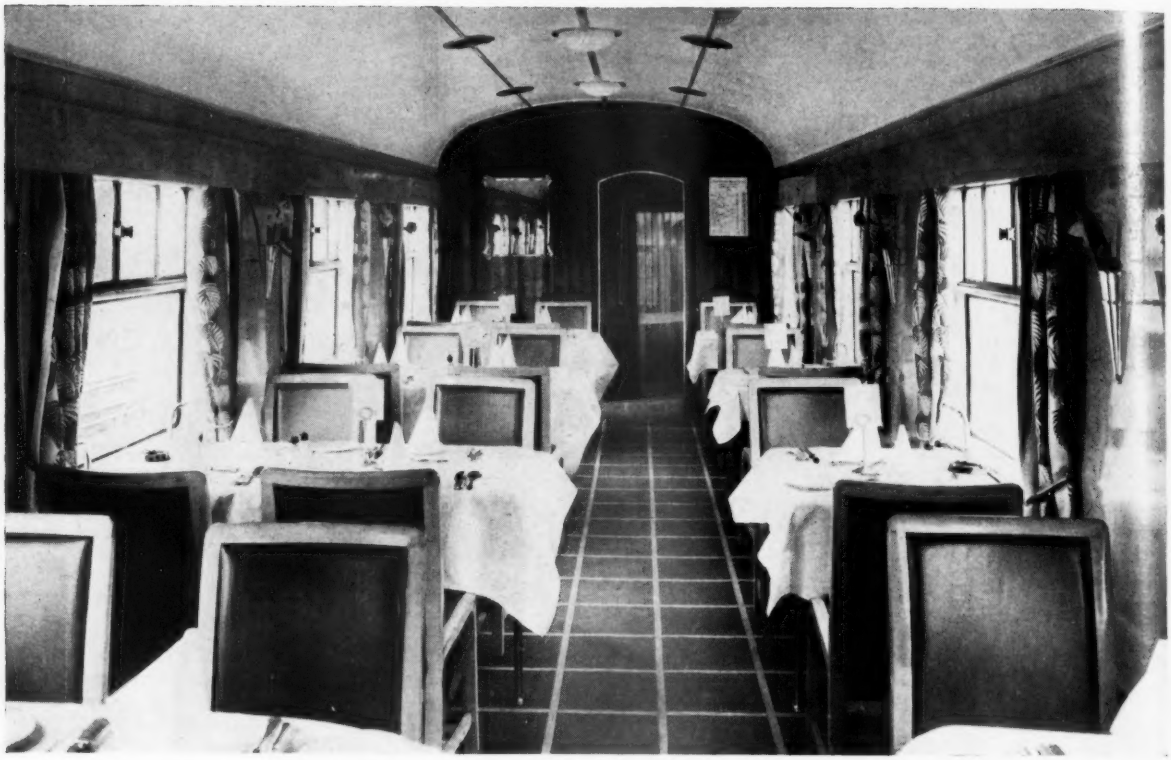
Principal Contractors

The following firms, as sub-contractors, supplied materials and fittings for the new cars:—

Structural steelwork	Dorman, Long & Co. Ltd.
Axles	Steel, Peech & Tozer Limited
Bolster springs	I. A. Timmis Limited.
Auxiliary springs	Brown Bayley's Steel Works Limited
Buffers	Geo. Spencer, Moulton & Co. Ltd.
Walnut and sycamore plywood and table tops	Flexo Plywood Industries Limited
Linette Formica	Thomas De La Rue & Co. Ltd.
Everflex plastic	Bernard Wardle Limited
Mirrors	Brooks Thomas Limited
Flower vases	E. W. Matthews Limited
Chromium-plated fittings	Chrom. Furnishings Limited
Curtains	Brown Thomas Limited
Flooring	Korkoid Decorative Floors
Dunlopillo cushions	Dunlop Rubber Co. Ltd.
Clatonrite rubber for windows	Howard Clayton-Wright Limited
Electrical equipment	J. Stone & Co. Ltd.
Batteries	Nife Batteries Limited.
Refrigerators	Frigidaire Limited.
Calor gas fittings	Calor Gas (Distributing) Co. Ltd.
Roller bearings	Hoffmann Manfg. Co. Ltd.
Roof ventilators	Greenwoods & Airvac Ventilating Co. Ltd.
Sliding ventilators	Windshields of Worcester Limited.
Drop windows and sliding door gear	Beckett, Laycock & Watkinson Limited.
Decolite flooring	J. W. Roberts Limited.
Heating equipment	Gresham & Craven Limited.
Roof tanks	John Levick Limited and John Lysaght Limited.
Lavatory fittings	James Beresford Limited; Twyfords Limited.
Bar optics & bar fittings	Gaskell & Chambers Limited.

Rolling Stock for the G.N.R.(I.)

(See article on page 395)



Interior of 24-seat restaurant car looking towards the kitchen

Interior of new buffet car for the "Enterprise" express, with seats for 26 passengers

RAILWAY NEWS SECTION

PERSONAL

Mr. J. D. Lewis, M.C., M.I.Mech.E., M.I.Loco.E., became a Partner in the firm of Fox & Mayo, Consulting Engineers, as from April 1. The style of the firm remains unchanged.

Major-General W. S. Tope, C.B., C.B.E., has been appointed a Director of Henry Meadows Limited, Wolverhampton, and elected Chairman. He recently retired as Chief of R.E.M.E., a post he had held since January, 1947. He was commissioned in the Regular Army in 1915. General Tope, who is 58 years old, is a Member of Council of the Institution of Mechanical Engineers, and a Member of the Institution of Electrical Engineers.

We regret to record the death on March 28 of Mr. Henry Barnden, who was Registrar of the Southern Railway Company from 1939 to 1944.

We regret to record the death of Mr. W. A. Sargent, M.B.E., who retired in 1936 from the position of Assistant to the Chief Operating Manager, L.M.S.R.

On March 29 Sir Alexander McColl completed 45 years service with Vacuum Oil Co. Ltd. He had been for 13 years in the Locomotive Department of the Glasgow & South Western Railway before joining the Vacuum Oil Company in 1905, within three years of which date he was appointed Manager of its Railway Department. By 1919 he had become a Director; in 1933 he was appointed Deputy-Chairman, and, in 1936, Chairman, from which position he retired ten years later, remaining on the board of the company. Sir Alexander McColl is also a Director of Glenfield & Kennedy Limited and of other companies, and is Chairman of the Superheater Co. Ltd.

Mr. M. Kanagasabay, M.Inst.T., Operating Superintendent, Ceylon Government Railway, who has been acting as General Manager, and has now been confirmed in that post, was born in 1898, and educated at St. John's College, Jaffna, Ceylon. He obtained his railway training at the Ceylon Technical College, gaining a bonus for being the best all-round student, and commenced his career in the General Manager's office in 1917. In 1929 he was appointed Probationary Assistant Divisional Transportation Superintendent. He underwent a course of training locally and, thereafter, with the London & North Eastern Railway from 1931 to 1933. During that period he also attended the North Western Polytechnic (London) and the London School of Economics. On his return to Ceylon he was appointed Assistant Divisional Transportation Superintendent (Supernumerary). He became Assistant Divisional Transportation Superintendent in 1934, Acting Assistant General Manager (Staff & General) in 1936, Deputy General Manager (Administrative) in 1937, and Operating Superintendent in 1943. He acted as Deputy General Manager in 1944. Mr. Kanagasabay is the first Ceylonese to be appointed General Manager. He was first admitted to the Institute of Transport as a graduate in 1930, and passed the Associateship Membership examination in 1933, with honours; he was transferred to Membership in 1948.

Mr. M. Kanagasabay

Who has been confirmed in the post of General Manager, Ceylon Government Railway

Mr. R. M. T. Richards

On Thursday last Mr. R. M. T. Richards, retiring Deputy Chief Regional Officer of the Southern Region, British Railways, met a number of friends who have been associated with him at different periods of his railway career, at Brunswick House, London, S.W. Mr. C. Grasemann, Public Relations & Publicity Officer, presented to Mr. and Mrs. Richards a black and white crayon portrait of the former by Miss Kay Stewart. Later a presentation concert and dance was held at Clapham Baths. Before the musical programme, Mr. O. W. Cromwell, Chief Officer for Labour & Establishment, Southern Region, presented to Mr. and Mrs. Richards gifts on behalf of the Brunswick Institute & Club, the Divisional Officers and Administrative Staff of the Southern Region, and the Southern Region Ambulance Staff. Mr. Cromwell paid a warm tribute to Mr. Richards and he was supported by Mr. P. Nunn, Mr. G. W. E. Kingsley and Mr. A. L. Scribbins.

Travel & Holidays Association

The names of members of the British Travel & Holidays Association were announced recently by the President of the Board of Trade in a Parliamentary written answer:—

Appointed by the President of the Board of Trade:—Sir Alexander Maxwell (Chairman); Messrs. Stanley Adams (Chairman, Thos. Cook & Son Ltd., Pullman Car Co. Ltd. and other companies); R. W. Batten (Chairman, North Hotels); R. H. Hacker (Chief Officer (Continental), Railway Executive); B. H. Russell (Director, Cunard Steam Ship Co. Ltd.); B. A. Salmon (a Managing Director, J. Lyons & Co. Ltd.); E. W. Wimble (formerly Secretary & General Manager, Workers' Travel Association); Hugh Wontner (Chairman, Savoy Hotel Limited); Norman Wood (Director, Co-operative Wholesale Society Limited).

Elected by the Travel Association:—Messrs. A. E. Davies (Alderman, London County Council); A. E. Shennan (Alderman, Liverpool City Council); Captain C. E. H. Master (Chairman, Friary, Holroyd & Healy's Breweries Limited); Messrs. Samuel Hodson (Clerk, Paignton U.D.C.); E. L. Taylor (an executive of the British Electric Traction Co. Ltd.); S. Plowden Roberts (Managing Director, Cox & Kings (Agents) Limited); James Forbes (Director, Eastern Tea Companies).

The Northern Ireland Tourist Board has appointed its Chairman, Mr. J. Nelson McMillan. The appointments by the Scottish and Welsh Tourist Boards have not yet been made.

Institution of Locomotive Engineers Awards

At the annual general meeting of the Institution of Locomotive Engineers held recently, the following awards were given for papers read during the 1947-48 session:—

Frederick Harvey Trevithick Award: jointly to Mr. E. S. Cox and Dr. F. C. Johansen for their paper on "Locomotive Frames."

Institution Award: to Mr. J. C. Loach for his paper on "Bogies and Pony Trucks: their Behaviour on the Locomotive and on the Track."

Alfred Roslin Bennett Award: to Mr. Jury Koffman for his paper on "Some Aspects of Carriage Bogie Design."

Mr. C. S. Douglas, Head of Purchasing Section, Stores Superintendent's Department, London Midland Region, who has been appointed Assistant (Purchasing & Sales), Stores Department, Railway Executive Headquarters, located at Euston, began his railway career in the L.N.W.R. Broad Street Goods Department in 1907, and entered the Purchasing Office at Euston set up by Sir Frank Ree in 1910. During the 1914-18 war Mr. Douglas served with H.M. Forces in France and Germany, and later resumed duty in the Purchasing Office. In 1931 he was appointed Deputy Resident Storekeeper, Crewe Works, L.M.S.R., and in 1934 became Assistant Stores Controller (Locomotives). He returned to headquarters and took control of the Purchasing Section in 1936.

Mr. C. S. Douglas

Appointed Assistant (Purchasing & Sales), Stores Department, Railway Executive

Mr. A. W. Bickham

Appointed Assistant (General), Stores Department, Railway Executive

Mr. George Roberts

Appointed Senior Assistant to Accountant, Eastern & North Eastern Regions

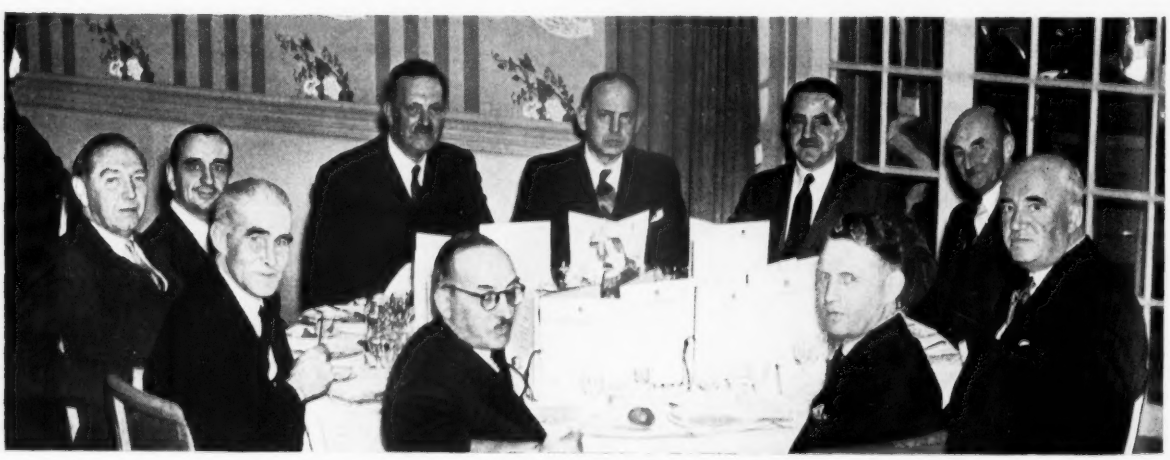
Mr. A. W. Bickham, Head of Outdoor & General Section, Stores Superintendent's Department, London Midland Region, who has been appointed Assistant (General), Stores Department, Railway Executive Headquarters, located at Euston, entered the service of the L.N.W.R. in 1909, and, after experience at stations and in the District Superintendent's Office, Euston, joined the Royal Engineers railway construction troops in France during the 1914-18 war. In 1919 he was awarded the Meritorious Service Medal for work connected with material supplies and plant control. On the formation of the L.M.S.R. he was transferred to the General Manager's Office and employed on stores duties, which functions passed to the first Chief Stores Superintendent of the L.M.S.R. in 1925. In 1944 he was appointed Head of Outdoor & General Section.

Mr. George Roberts, who has been appointed Senior Assistant to Accountant, Eastern & North Eastern Regions, British Railways, was educated at Mottram Grammar School and the Manchester High School of Commerce, and joined the Great Central Railway as a junior clerk in the Accountant's Department at Manchester in 1911. He served in the Forces during the 1914-18 war, and returned to the Accountant's Department. In 1928 he was transferred to the Chief Accountant's Office, L.N.E.R. Before his appointment as Assistant Book-keeper (Railways) in 1942, Mr. Roberts had taken charge of several sections in the Chief Book-keeper's office. He was appointed Assistant to Chief Accountant (Stores) in 1947, and from January 1, 1948, until his present appointment, has held the post of Assistant to Accountant, Eastern & North Eastern Regions.

B.I.C.C. Dinner to Electric Traction Engineers

At a dinner held recently at the Savoy Hotel, London, the Chairman and directors of British Insulated Callender's Cables Limited entertained distinguished electric traction engineers, representing the profession both at home and overseas. At the close of the dinner the 60 guests were officially welcomed by Mr. W. H. McFadzean, Deputy-Chairman & Chief Executive of B.I.C.C., who was in the chair. Mr. C. M. Cock, Chief Electrical Engineer, Railway Executive, responded on behalf of British guests, and Mr. T. H. Thelander, Chief Electrical Engineer, Swedish State Railways, thanked the hosts on behalf of the overseas visitors. The gathering then witnessed a film dealing with the electrification of the Liverpool Street-Shenfield section of the Eastern Region, overhead equipment for which was provided by B.I.C.C.

British Insulated Callender's Cables Dinner to Electric Traction Engineers



The chairman's table at the dinner given recently at the Savoy Hotel by the Chairman and directors of British Insulated Callender's Cables Limited to electric traction engineers (see paragraph above)

Mr. W. H. McFadzean (Deputy-Chairman & Chief Executive of B.I.C.C.) in the chair, and, from his right, Mr. T. H. Thelander (Swedish State Railways), Mr. F. B. Kitchin (B.I.C.C.), Mr. M. G. Ruhlman (Paris Transport Board), Mr. J. F. Perry (Metropolitan-Vickers), Mr. H. H. Swift (British Railways, Eastern Region), Sir Vincent Z. De Ferranti (Ferranti Limited), Mr. Gastine (French National Railways), Mr. H. S. Aspinall (English Electric), and Mr. C. M. Cock (Railway Executive)

Underground Railway Planning in Canada

(*Concluded from page* 391)

braced, and with the entire opening decked with substantial timber planking. Space will be provided above or alongside the subway for mains.

In the open sections the cuttings slopes will be turfed and planted. The subsoil of Toronto favours underground construction; the top excavations generally will be through topsoil, sandy clay, tough blue clay, and sand and gravel. Dundas shale which underlies most of the city, is found about 25-30 ft. below surface along Front Street, where the subway structure will be founded on this material; elsewhere the foundations, in general, will be in sand, sandy clay, or stiff blue clay.

Subway stations will be given a modern and attractive architectural treatment. Distinctive colours may be used for various stations to facilitate identification by passengers. Lighting will be fluorescent. Signals will be automatic colour light with train stop mechanism. The track will be 100 lb. section welded throughout, and supported on rubber or resilient pads.

The Toronto Transportation Commission awarded in July last a contract for the construction of the first two sections of the Yonge Street subway (one along Front Street between York Street and Yonge Street and on Yonge Street between Front Street and Queen Street, and the other on Yonge Street between Queen Street and College Street) to a syndicate headed by C. A. Pitts General Contractor Limited, of Toronto, which submitted the lowest tender. Associated with the contractor are three United States contractors.

Work began early in September last between Front Street and Wellington Street and between Queen Street and Shuter Street, necessitating the closing of Yonge Street to street traffic for about four weeks.

There will be free transfers between the rapid transit lines and connecting road services, and no adjustments in fares will be made. In 1948 the average Toronto fare was 6·157 cents, or almost 60 per cent. less than the United States average. In view of its satisfactory financial situation, the Toronto Transportation Commission proposes to find 80 per cent. of the cost of the rapid transit project and the remaining 20 per cent will be in the form of a Government grant. The cost of diverting or rebuilding public utilities affected by the construction will be largely borne by the Commission.

The Montreal Project

In 1943-44 a plan was prepared by the Montreal Tramways Company for the Greater Montreal Economic Council for a subway system for the city which might form part of a post-war reconstruction programme. The company was also assisted in planning by De Leuw, Cather & Company.

Montreal has now a population of about 1,250,000. The limited number of suitable east-west arteries and the position of the park of Mount Royal immediately north of the central business district makes for traffic congestion, often severe in the centre.

The layout of the system envisaged has points of similarity with that for Toronto—a north-south subway for operation by rapid transit trains and an east-west subway for tramcars. The north-south route selected after careful consideration of alternatives would begin at Jean Talon Street, follow St. Lawrence Boulevard southward to Craig Street, turn west beneath Craig and St. Antoine Streets to near Cathedral Street, thence northward through Dominion Square to Windsor Street to a terminus at St. Catherine and Peel Streets, a total distance of 5½ miles. The tramway subway would be 2 miles long, beneath St. Catherine Street between Chomedey and Visitation Streets.

Proposed Extensions

The total cost of both lines would be $60,815,000. Future extensions proposed are from St. Catherine-Peel (north-south line), north-west to Snowdon, and of the east-west line westward to Sherbrooke and Girouard eastwards to Viau Avenue, and north-eastwards to Rosemount. A subway is also projected from Victoria Square, on the north-south line, to the Verdun district, adjoining the St. Lawrence River; it would utilise the existing tunnel under the Lachine Canal.

Stations on the north-south line would be at Jean Talon Street, Bernard, Laurier, Mount Royal, and Pine Avenues, St. Catherine Street, Craig (adjoining the tramway terminal), Victoria Square, Lagauchetiere-Cathedral Street (connections to C.P.R. Windsor Street and C.M.R. Central Stations), and St. Catherine-Peel Streets. The initial St. Catherine subway would have stations situated at Guy, Peel, University, and Bleury Streets, St. Lawrence Boulevard, St. Denis, and Amherst Streets.

The north-south route would be constructed as a low-level subway passing at right angles under the east-west line; it would be built in rock tunnel and as cut-and-cover, with mezzanine stations, and have a maximum gradient of less than 1 in 40. The east-west route would be constructed as a high-level subway.

ENGLISH ELECTRIC CO. LTD. CONTRACT FOR THE SPANISH NATIONAL RAILWAYS.—Early this year the Spanish National Railways sent a delegation, headed by the Director General, to Great Britain to inspect the works of manufacturers of electric traction equipment. As a result of this, and of subsequent negotiations carried on in Madrid, the railways have placed with the English Electric Export & Trading Co. Ltd. an order for 3,600-h.p., 3,000-V. d.c., main-line electric locomotives for the 5-ft. 6-in. gauge, to the total value of £2,713,400. The first part of this contract envisages 20 locomotives to be built at the Preston Works of The English Electric Co. Ltd., in conjunction with Vulcan Foundry Limited at Newton-le-Willows as sub-contractors, and it is expected that the first of these locomotives will be delivered to Spain in about 18 months time.

Staff & Labour Matters

N.U.R. Wage Claim

The Manchester and Essex district councils of the N.U.R. have sent resolutions to the national executive, to be considered at the annual conference in July, proposing that the union withdraw support for the T.U.C. policy of wage restraint. The resolution urges the T.U.C. "to press with all its power that profits be frozen to the current rate level of bank interest, all profits over this rate being paid into a common pool and be used to clothe, house, and feed the poorer-paid workers."

The claim for increased rates for lower-paid railway workers is being followed by the National Union of Mineworkers, which is considering submission to the National Coal Board of a claim for increased wages for their own lower-paid employees; this may lead to deferment of the claim for adjustment of their cost-of-living sliding scale bonus for miners.

These claims are being pressed despite the announcement in the "Economic Survey for 1950" that the Government regards it as "of vital importance that we should continue the major economic and financial policies by which we have been guided over the past three years." The document also states that if dividends, salaries, and wages are increased without a corresponding increase in output, and if personal spending grows too fast, then the inevitable result will be a dangerous increase in pressure on the price level, and a handicap on exporters that may well defeat the efforts expected of them.

Development of the Kenya & Uganda Railway—2

(*Concluded from page* 392)

cham), then Governor of Kenya and High Commissioner for Transport for Kenya and Uganda, delivered at Jinja, Uganda, in January, 1928, on the occasion of the opening of the Nile bridge, in which he paid a graceful tribute to the achievement of the railway, a fitting conclusion to this survey:—

". . . The results of this railway project of thirty years ago have exceeded the wildest dreams of its originators. By accident, the railway revealed the lovely Highlands of Kenya and enabled us to plant there an outpost of the British race, which has in my belief a great part to play in the history of European contact with Africa. It has been responsible also for the fact that we have been able to prove and establish economic crops over a rich and fertile country, which until its advent had absolutely no external trade. Cotton, coffee, sisal, maize, wheat—all these things have been brought here by European pioneers and all these things have been established simply because the railway has been built. Without the railway none of these valuable crops could have been established here for a day."

METROPOLITAN-VICKERS ELECTRICAL CO. LTD. CALENDAR.—An attractive calendar, 10¼ in. by 15½ in., has been issued by Metropolitan-Vickers Electrical Co. Ltd. The subject of the calendar is Miss Susan Hook, who plays a part in modelling for London fashion houses.

British Transport Commission Statistics

*Summary of the principal statistics for the four-week period ended January 29**

The taking over by the British Transport Commission from contractors on January 1 of certain refreshment rooms and restaurant-car services has resulted in increases over a year ago of 9 per cent. in Hotels Executive receipts and of 8 per cent. in staff. A new-year innovation is the B.T.C. common Legal Service, of which the staff is shown separately, all being transfers from other sections.

For the first time, British Road Services receipts are available for comparable periods of succeeding years. The 320 per cent. increase, however, over 1949, shown in Period 1 of 1950, means little, in view of the many acquisitions of road haulage undertakings last year. The corresponding staff increase is 290 per cent.

Net ton-miles, since the Commission's statistics were published for the first period of 1948, had been ascertained by the Railway Executive formula of multiplying loaded wagon-miles by the average load at starting point, with certain adjustments to reflect variations in load during transit. The pre-war practice has now been resumed. Loaded wagon-miles are now multiplied by the average loads of forwarded and received traffic taken in combination; for the purposes of comparison the 1949 figures have been adjusted accordingly.

Whilst total railway receipts are almost the same as for Period 1 of last year, there is a marked drop in passenger takings.

Net ton-miles decreased very little, falls in merchandise and mineral tonnages being offset by a rise in coal. Net ton-miles per total engine-hour, at 558, compare with 551 for the preceding period and 541 in January of last year. Freight train-miles per train engine-hour rose from 7·8, in December, to 8·1 (7·8 in 1949); this figure varies from 9·9 for the Scottish to 6·9 for the London Midland Region.

The average wagon load at starting point fell from 8·4 tons, for the preceding period, to 8·3, and ranged from 10·5 tons for the North Eastern, with its heavy coal and mineral traffic, to 5·6 tons for the Southern Region.

* British Transport Commission Statistics, 1950. Series No. 1. Period to January 29. London: British Transport Commission. Price 1s.

STAFF

—	B.T.C. Head Office	British Railways	London Transport	British Road Services (Road Haulage)	Road Passenger (Provincial & Scottish)	Hotels & Catering	Ships & Marine	Inland Waterways	Docks, Harbours, Wharves	Railway Clearing House	Common Services: Commercial Advertisement	Legal	Total
Number	214	622,819	99,224	68,536	55,222	17,272	5,814	5,152	19,857	648	156	253	870,167
Inc. or dec. ...	nil	−1,420	−355	+138	−271	−109	−42	+32	−32	−2	nil	nil	−2,062

1. BRITISH TRANSPORT COMMISSION TRAFFIC RECEIPTS

—	Four week to January 29		Inc. or dec.
	1950	1949	
	£000	£000	£000
British Railways—			
Passengers	6,078	6,425	− 347
Parcels, etc., by passenger train	2,040	1,940	+ 100
Merchandise	6,049	6,226	− 177
Minerals	2,359	2,339	+ 20
Coal & coke	5,407	5,260	+ 147
Livestock	84	92	− 8
	22,017	22,282	− 265
British Railways—			
C. & D. and other road services	639	649	− 10
Ships	531	509	+ 22
London Transport—			
Railways	1,119	1,129	− 10
Buses & coaches	2,241	2,254	− 13
Trams & trolleybuses	800	810	− 10
	4,160	4,193	− 33
British Road Services—			
Freight charges, etc.	4,279	1,318	+ 2,961
Road Passenger Transport	2,284	2,253	+ 31
Docks, Harbours & Wharves	819	777	+ 42
Inland Waterways	117	120	− 3
Hotels & Catering	1,008	932	+ 76

2. BRITISH RAILWAYS

(A) Passenger Journeys Originating in the Month of December

—	Region												Total	
	London Midland		Western		Southern		Eastern		North Eastern		Scottish			
	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.
Ordinary fares	854	−20·9	559	−10·5	1,862	−4·6	909	+1·4	98	−37·5	182	−35·5	4,464	−10·6
Monthly returns	3,848	−15·1	1,637	−9·3	6,463	−6·9	3,318	−6·8	377	−17·7	679	−24·7	16,322	−10·3
Excursion, weekend, cheap day, etc.	4,416	+93·2	1,926	+31·1	3,792	+34·9	1,494	+108·1	983	+69·5	1,428	+117·2	14,039	+64·8
Workmen	5,390	−2·3	1,640	−8·3	6,364	+2·3	3,304	−4·4	830	−11·2	914	−2·9	18,442	−2·2
Other descriptions ...	953	−16·8	720	−8·6	1,269	+0·6	617	−5·8	247	−11·2	272	−17·6	4,078	−8·5
Season tickets	2,720	−11·1	1,391	−7·6	9,995	−3·7	3,447	−0·2	429	−3·2	1,114	−15·4	19,096	−5·3
Total	18,181	+3·2	7,873	−1·3	29,745	+0·6	13,089	+2·7	2,964	+4·0	4,589	+3·6	76,441	+1·7

(B) Freight Tonnage Originating

—	Region												Total	
	London Midland		Western		Southern		Eastern		North Eastern		Scottish			
	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.
Merchandise	1,386	+2·4	793	−1·6	266	−6·3	634	−8·6	585	−3·3	528	−5·3	4,192	−2·5
Minerals	1,658	+4·3	716	−1·2	142	+1·0	838	−0·7	905	+9·8	551	+6·0	4,810	+3·6
Coal & coke	4,513	+6·9	2,238	+6·6	286	−1·0	2,198	+1·3	2,520	+6·9	1,373	−6·4	13,128	+4·2
Livestock	10	−19·0	10	−2·0	4	+16·7	2	nil	4	nil	17	+10·5	47	−0·8
Total	7,567	+5·4	3,757	+3·2	698	−2·6	3,672	−1·0	4,014	+5·9	2,469	−3·5	22,177	+2·7

(C) Net Ton Miles

—	Region												Total	
	London Midland		Western		Southern		Eastern		North Eastern		Scottish			
	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.
Merchandise & livestock ...	185,986	−0·1	111,082	+2·8	24,858	−2·5	85,551	−3·5	62,599	−2·1	75,181	−5·4	545,217	−1·5
Minerals	132,688	+0·7	74,085	−4·3	14,951	+2·6	95,804	−3·4	38,075	+2·5	37,552	−5·4	393,155	−1·6
Coal & coke	310,193	+8·0	134,996	−1·2	27,987	+8·6	171,208	+0·4	72,601	−2·9	54,846	−10·7	771,831	+2·0
Total all classes of traffic...	628,867	+3·6	320,163	−0·6	67,796	+3·0	352,523	−1·6	173,275	−1·5	167,579	−7·2	1,710,203	nil

(D) Train Miles

—	Region												Total	
	London Midland		Western		Southern		Eastern		North Eastern		Scottish			
	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.	000	Per cent.
Coaching train miles—														
Steam—														
Loaded	4,031	−3·4	3,007	+2·3	1,463	+0·4	2,518	+6·8	994	+1·8	1,696	−1·7	13,709	+0·6
Empty	115	−10·8	136	+9·2	41	+0·9	91	+15·4	40	−2·6	52	−0·1	475	+1·9
Total loaded & empty ...	4,146	−3·6	3,143	+2·6	1,504	+0·4	2,609	+7·1	1,034	+1·6	1,748	−1·6	14,184	+0·7
Electric—														
Loaded	437	+2·4	—		2,945	+0·8	139	+552·4	93	+0·5	—		3,614	+4·4
Empty	18	−1·5	—		62	+3·4	8	+272·5	9	−4·6	—		97	+7·5
Total loaded & empty ...	455	+2·3	—		3,007	+0·8	147	+528·4	102	+0·1	—		3,711	+4·5
Freight train miles—														
Loaded	3,040	+0·3	1,774	+1·0	535	−0·5	1,713	+2·7	925	−0·9	1,303	−3·1	9,290	+0·2
Empty	597	+8·3	204	−3·2	21	+33·8	401	+18·9	220	+2·6	186	−0·7	1,629	+7·4
Total loaded & empty ...	3,637	+1·6	1,978	+0·5	556	+0·5	2,114	+5·4	1,145	−0·3	1,489	−2·8	10,919	+1·2
Total train miles	8,238	−1·0	5,121	+1·8	5,067	+0·7	4,870	+9·1	2,281	+0·6	3,237	−2·2	28,814	+1·3

(E) Freight Train Miles per Train Engine Hour

Region											Total	
London Midland		Western		Southern		Eastern		North Eastern		Scottish			
1950	1949	1950	1549	1950	1949	1950	1949	1950	1949	1950	1949	1950	1949
6·86	6·52	8·76	9·14	8·63	8·74	8·07	7·68	9·81	9·25	9·92	9·35	8·09	7·84

(F) Locomotive Coal Consumption

—	Region												Total	
	London Midland		Western		Southern		Eastern		North Eastern		Scottish			
		Per cent.		Per cent.		Per cent.		Per cent.		Per cent.		Per cent.		Per cent.
Tonnage consumed (000s)	362	−4·9	185	+1·6	77	−5·9	205	+0·2	91	−6·7	163	−7·1	1,083	−3·5
Lb. per engine mile ...	67·5	−2·8	55·1	+2·2	57·9	−3·7	66·7	−3·9	62·9	−5·7	74·2	−4·0	64·6	−2·7

(G) Rolling Stock Position

—	Operating stock	Number under repair	Available operating stock	Serviceable stock in 1949
Locomotives	19,853	3,562	15,757	15,922
Coaching vehicles	56,412	5,313	51,099	49,549
Freight wagons	1,109,802	84,967	1,024,835	1,065,311

3. INLAND WATERWAYS

Tonnage of traffic and ton miles

—	Tonnage	Per cent.	Ton miles	Per cent.
	000		000	
General merchandise ...	330	+11·3	5,018	−1·5
Liquids in bulk	145	− 1·0	3,412	+5·5
Coal, coke, patent fuel & peat	472	+10·0	5,910	−4·1
Total	947	+8·6	14,340	−1·0

4. LONDON TRANSPORT

(A) Passenger Journeys Originating

—	Number	Per cent.
	000	
Railways	50,601	−0·7
Buses & coaches	204,143	+0·5
Trams & trolleybuses ...	87,871	−0·6
Total	342,615	nil

(B) Rail and Road Car Miles

—	Miles	Per cent.
	000	
Railways	18,053	−0·2
Buses & coaches	23,800	−0·8
Trams & trolleybuses ...	8,592	−0·3
Total	50,445	−0·5

Mansion House Association on Transport

Sir John Anderson urges need for sound basis of transport charges

The annual luncheon of the Mansion House Association on Transport was held at the Trocadero Restaurant, London, W.1. Mr. W. H. Gaunt, President of the Association, was in the Chair, and the principal guest was Sir John Anderson, Chairman of the Port of London Authority.

Mr. Gaunt briefly introduced Sir John Anderson and several other guests who were to speak and explained that speeches were to be confined to ten minutes each, so that members of the Association could proceed to their annual general meeting.

Sir John Anderson said that three years had elapsed since he last addressed the Association. During that time the Transport Act had been passed and the first annual report of the British Transport Commission had been issued. That document encouraged the belief that the great nationalised transport organisations of the country were in competent hands. Transport was absolutely vital to the economic life of the nation, and however competent those operating the Transport Act might be, it was not possible to escape the fact that there were still a great many problems awaiting solution. These included such matters as "C" licences, and the basis to be adopted in considering the finances of inland transport.

At the present time, moreover, there was also the problem of arriving at a sound basis of charges. The whole system was running at a heavy loss and it was essential that something should be done about that. If charges were not soundly based at the outset, the result would only be confusion and lack of efficiency in the future. There had been a heavy increase in costs of many kinds since before the war, and unless methods could be found of effecting economies in handling, it would be impossible to avoid heavy increases in charges.

Shipping Recovery

Mr. C. E. Wurtzburg, Vice-President of the Chamber of Shipping, said that the relations between coastal shipping and rail and road were very complicated. He described coastal shipping as the Cinderella of the transport industry. British Empire shipping had lost 12 million tons during the war and it was a tribute to all concerned that it had made good these losses. If it had not done so, shipping would not have been able to have made so great a contribution to the export drive and it would have been necessary to have expended valuable dollars on payment for shipments in foreign vessels. In 1946 about £60 million of invisible exports had been attributable to British shipping services, and in 1947 the figure had been about £100 million. In the last nine months there had been a considerable fall in charter rates and he doubted if the Whitehall planners were safe in their forecast that the yield for shipping services during the coming year would be as great as they had been.

Lord Lucas of Chilworth, Parliamentary Secretary to the Ministry of Transport, said that transport had been debated recently for several days in both Houses of Parliament, and he thought that everything that was worth saying, and a good deal that was not, had been said. Whatever else had been changed in the last few years, he was glad to know that the good relations between the Mansion House Association and the Minister and his officials had remained unchanged.

Captain Oliver Lyttelton said that he did not think that the most ardent Socialist would claim that there had been evolved the right kind of Parliamentary control of nationalised industries. He agreed that it would not be right to expect the Minister to be able to answer questions which would involve knowledge of, or interference in, the day-to-day running of a nationalised industry, but the Minister could not evade responsibility for the successful management of undertakings which represented hundreds of millions of pounds of public money.

He had no doubt that it would be found possible to evolve methods of making nationalised industry work successfully. The last thing in the world he wished to see was nationalised industries, such as transport, in an inefficient state, for that could only mean incurring losses, or running inefficient and costly services, the cost of which would have to be met by industry and the public.

Mr. M. F. Barnard, Chairman of Council of the Mansion House Association, welcomed the guests.

Amongst those present were:—

Sir John Anderson, Messrs. M. F. Barnard, S. J. Bennett, H. J. Birkbeck, Sir Cyril Bitchnell, Messrs. W. E. Blakey, David Blee, Colonel R. S. Clarke, Messrs. G. Cole Falcon, W. H. Corney, B. W. C. Cooke, F. W. Crews, Brigadier R. J. O. Dowse, Messrs. D. McA. Eccles, H. Elliott, F. D. Fitz-Gerald, W. H. Gaunt, Lord Gifford, Messrs. J. B. Green, F. Grundy, N. A. Guttery, C. F. Haywood, P. Maurice Hill, Sir Reginald Hill, Mr. J. J. Hughes, Sir Gilmour Jenkins, Messrs. H. Knight, D. R. Lamb, G. Lambert, Lord Latham, Sir Frank Lee, Sir Robert Letch, Lord Lucas of Chilworth, Captain Oliver Lyttelton, Messrs. J. R. Pike, H. D. Poole, D. Renton, A. J. Rice, T. W. Royle, Major-General G. N. Russell, Messrs. S. G. Rydings, G. H. Searle, G. F. Sinclair, D. G. Sofio, A. J. Webb, C. White, E. Whitfield, Sir William V. Wood, Mr. C. E. Wurtzburg.

Westinghouse Brake & Signal Co. Ltd.

The ordinary general meeting of the Westinghouse Brake & Signal Co. Ltd. was held at 82, York Way, London, N.1, on March 27, Captain A. R. S. Nutting, Chairman of the company, presiding.

In his statement circulated with the report and accounts for the year ended September 30, 1949, the Chairman drew attention to the £20,000 increase allocated from the profits during the year. Revenue reserves were £1,097,651 compared with the previous figure of £1,004,103, the increase of £93,548 being caused by appropriations of £25,000 to contingencies, £5,000 to pensions, and £45,000 to a reserve on account of their temporary benefit from initial taxation allowances on new capital items bought during the period under review.

An additional £18,000 would be required for tax for the year 1950-51. The carry forward of profits to the current period was £548 more than in the preceding year. The loan of £750,000 secured in 1949 appeared in the balance sheet, and had more than replaced the bank overdraft. In addition to £541,650 provision for tax, there was £103,000 reserve for tax payable in January, 1951.

Heavy Tax Burdens

No agreement, said Captain Nutting, had been reached with the authorities regarding liability for excess profits tax. British industry had grounds for saying that the present system and demands of the revenue authorities were harmful to industry. Penal taxation made it hard to find, and to justify the finding of, finance for replacement of old and purchase of new plant. Competition in world markets was increasing, but their efforts to combat it were restricted by taxation.

Regarding subsidiaries, their shares in Westinghouse Garrard Machines Limited would be fully paid up shortly; this company incurred a loss during its last financial year, as had been expected, in view of development work. Their Indian subsidiary made a profit, which had been retained in the business. The subsidiaries together had done well and contributed £172,718 to the group trading profits for the past twelve months.

Group trading profit was £491,213, reduced by provision for tax and interest on loans, and so on, to £224,428. This was less than expected, due to increased costs of every kind.

The net profit of their own company was £171,932, against £162,740 for the preceding year; this, with £10,039 provisions no longer required, and other items, and £99,103 balance from last year, made £281,074. The directors had appropriated £20,000 to replacement reserve and £75,000 to pensions and reserves as mentioned.

From the resultant total of £95,000 they recommended distribution of £86,423 in dividends, namely, 14 per cent. on the issued capital; this, however, represented only 6¼ per cent. on the actual capital, which had been provided over a period of years by retention of profits in the business. The balance carried forward was £99,651.

Overseas Trading Problems

Dividends from their associated companies on the Continent were reduced by adverse exchange rates. While production at their Chippenham factory had reached a record, the high costs, including those of plant replacement and of experimental work, had reduced profits. During the year they had exported 41 per cent. of total sales, but exports were restricted, largely by lack of sterling in some countries. These problems were not being solved by high-lend planners.

Railway Equipment Orders

Although orders on hand were generally satisfactory, railways in Britain were cutting expenditure, and seemed unlikely to place substantial orders; and, though there were large orders for certain items, new signalling projects as opposed to stores orders were rare. They had secured a re-signalling contract for a considerable part of the Spanish National Railways.

Australian railways had placed large orders with British wagon builders, resulting in orders for their fittings for local patterns of Westinghouse air brakes.

The rectifier business was satisfactory, and was much helped by developments in television. Valuable orders had been received from the National Coal Board for colliery equipment.

The report and accounts were adopted.

Coras Iompair Eireann

At the annual general meeting of Coras Iompair Eireann on March 27, Mr. T. C. Courtney, Chairman, said that since their meeting last year, a Transport Bill, providing for the transfer to a Transport Board of the undertakings of Coras Iompair Eireann and the Grand Canal Company, and certain other transport undertakings, had been introduced in Dail Eireann.

As regards the past year, the total loss incurred was £1,205,461, which was a reduction on last year of £218,582, though it must be remembered that for a portion of the year additional revenue accrued from an increase in fares. There were certain exceptional items of expenditure to be met during the past year, *i.e.*, increase in salaries, wages, and so on, granted in the latter part of 1948, amounting to £267,495, increased provision for pension funds on advice of actuaries, £80,000, and writing off expenditure undertaken on schemes not now being proceeded with, £61,315. In November last Dail Eireann voted £4,091,000 to meet losses and capital commitments.

In 1949 the company was able to provide increased facilities for passengers and at the same time effect an improvement in the over-all running time of trains. Many additional excursion trains were run and all-in tours by rail and road were revived. Day excursion fares and market tickets were re-introduced. A new feature was the introduction of the "Radio Trains" which were proving a marked success.

On the road passenger side an additional fleet of 76 double-deck and 95 single-deck buses has been provided. Hours of service in Dublin have been extended to 11.30 p.m., and, generally, travelling facilities by road had been extended and improved.

Last year the stockholders asked that the accounts be presented on the basis set down by Sir James Milne in his report in addition to the ordinary basis hitherto adopted. A statement of accounts on that basis had therefore been prepared this year. The accounts made up in this form gave the loss on net revenue account for the year as £942,580, which was £263,166 less than that in the printed accounts.

The report and accounts were adopted.

Isle of Man Railway Company

The ordinary general meeting of the Isle of Man Railway Company was held in Douglas on March 8, Mr. R. Q. Hampton, Chairman, presiding.

A reduction in the number of visitors in 1949, Mr. Hampton pointed out, adversely affected traffic. While anticipation of traffics as high as those of the preceding year, considerable outlay had been made on advertising, but reduced public spending power, together with good weather and other inducements to visitors to remain in Douglas, were against excursion traffic.

Gross receipts for the year ended December 31, 1949, were less by £4,214, but working expenses had been reduced by £2,524; this saving was greater than it seemed, for the reason that a further substantial wage increase for ten months of the year was included in these totals. Despite bus competition, passenger journeys remained much the same as before, and freight tonnages still were high. This had been effected without the fare and rate increases introduced by British Railways since nationalisation and without deterioration in services.

Passenger travel out of season had increased. In 1949 the two-day "go as you please" tickets had been re-introduced on both rail and bus routes for the first time since the war. Since November, 1949, they had revived the running of excursion trains all over the system on Thursdays at single fare for the return journey.

Their subsidiary company, Isle of Man Road Services Limited, had extended its services. Interchange of rail and bus travelling facilities attracted traffic, and increased flexibility, and was a step towards more efficient integration of both means of transport. They were bearing in mind the widespread building and increase in population in rural areas.

Gross receipts were £94,005, and working expenses £81,503, leaving a balance of £12,502, which with £5,787 interest on investments and after deduction of £7,249 debenture and general interest and rent charges, gave a disposable balance of £11,040; of this, £5,000 was placed to rolling stock reserve. The directors proposed to allocate, as before, 5 per cent. on the preference and 2½ per cent. on the ordinary shares, and to increase the carry-forward by the remaining £40.

The report and accounts were adopted.

Parliamentary Notes

British Transport Commission Bill

The House of Commons on March 30 discussed the British Transport Commission Bill, on the motion for second reading.

Mr. J. A. Boyd-Carpenter (Kingston-upon-Thames—C.) expressed surprise that the British Transport Commission should be bringing forward the Bill in present circumstances. It dealt mainly with the railway side, and sought to authorise expenditure, although the railways were entering an increasingly difficult financial state. He said they were discussing matters on the basis that the body promoting the Bill was on a non-stop run to bankruptcy, and they must discover how the Commission hoped to find itself in the financial position to carry out the proposals, as well as its other duties.

High Passenger Fares

He asked the Minister to pay attention to the observations of the very able man whom he had placed in charge of the Railway Executive, Sir Eustace Missenden, who had had a career of great distinction with the Southern Railway, and who, he hoped the Minister would allow him to say, was a very fine choice for the responsible job he held. In referring to the transport situation last summer, Sir Eustace Missenden had said: "During the summer months just passed, we have provided a fine train service, all things considered, and it is somewhat disappointing for all of us that, for one reason or another, we have not conveyed as many passengers as we had hoped." The reason, Mr. Boyd-Carpenter submitted, was that about which he had warned the Minister in the House a few years ago; that was, that if passenger fares were raised, traffics would be diminished. He asked, in addition, whether what had happened with passenger fares might not happen with freight.

He thought that the old feeling of loyalty and enthusiasm which the railway companies had been able to evoke — he himself had some family connection with the Southern Railway—was to some extent being lost, inevitably, perhaps, in an organisation so vast as the present one.

Mr. James Harrison (Nottingham, East —Lab.) wished to draw attention to the fact that railwaymen today were working shorter hours and enjoying longer holidays. He submitted that, if they compared pre-war figures with those of today, both for numbers of staff and traffic per ton-mile—even taking into consideration the fact that the number of passengers was less—they found that railwaymen were doing more work, because more traffic was being handled by less men.

He asked how, irrespective of any economies they might make in administration or operation, they could run the railways without charging an economic rate for passengers and goods, or resorting to a subsidy.

Mr. Percy Morris (Swansea, West—Lab.) said the House had to make up its mind what its attitude was to be towards British Railways. There were two courses: by destructive criticism, to denigrate the work of the Commission, Executives and employees; or, by positive suggestions, to encourage the improvement and extension of the railway section of the transport industry. In 1949 the Railway Executive had achieved £7 million in economies, and in the year ended November, 1949, a reduction of staff of 27,000.

Viscount Hinchingbrooke (Dorset, South —C.) thought that the nationalised industries should make neither a profit nor a loss, but should aim, after paying for charges, and providing for depreciation, to strike a balance. It seemed to him that the principle must go right through the Transport Commission down to its separate services. He believed it was wrong in principle that, if the railways could not pay, they should be padded by the roads.

Minister's Reply

Mr. Alfred Barnes (Minister of Transport) said that when they considered the opportunities for discussion the House had had since the passing of the Transport Act and in the two years during which the British Transport Commission had brought forward its annual Bill, they found that Members had been provided with a wide review of its affairs.

The Transport Commission had not imposed any general increase in freight rates or passenger fares since it had taken possession of the transport industry on January 1, 1948. This was the first general increase in charges it had proposed. In its two years, the Commission had had to include on its expenditure side all the increased charges imposed by the coal, timber, steel, copper and any other industries for commodities used by railways.

The pre-war cost per ton of building a locomotive had been £73. Today, the cost was £156 per ton. The cost of constructing carriages had increased by 150 per cent. over pre-war, and that of wagons 110 per cent. The average increase in the price of steel products used by the railways was 101 per cent., and that of non-ferrous metals needed by them was 187 per cent. The price of sleepers had risen by 343 per cent.

It did not matter what test was applied to railway efficiency today; there had been a reduction of staff of something like 30,000, and an introduction of the 44-hour week, holidays with pay, sick pay, etc. There had been an expenditure of something like £20 million of capital to overtake the arrears of maintenance.

The second reading was agreed to without a division.

Notes and News

New Steel Wagons for British Railways—The Pressed Steel Co. Ltd. has received on order from British Railways for the delivery of 5,000 wagons a year for five years. They are all-steel and all-welded 16-ton mineral wagons, with two side doors and one end door.

Institution of Mechanical Engineers.—At a meeting of the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at 5.30 p.m. on April 21, Mr. O. V. Bulleid, Past President, is reading a paper entitled "Stages in the Development of the Steam Locomotive to Restore it to its Supremacy as the Ideal Railway Traction Unit."

Institute of Transport Graduateship Examination.—The way in which the subjects in each part of the Institute of Transport Graduateship examination are at present grouped will be re-arranged in two years' time, so as to take effect in the examinations in 1952. English will then be included in part one and general economics transferred to part two.

Institution of Locomotive Engineers.—Mr. C. A. Gammon will read a paper on "Standardisation and Design of Goods and Mineral Wagons as Applied to British Railways," before the Institution of Locomotive Engineers on April 19. The meeting will be held at the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at 5.30 p.m.

Tip-Up Seats for Bus Shelters.—London Transport has recently evolved a tip-up seat for queues at bus shelters, which are used by passengers for coaches and other services with comparatively long headways. Each shelter installation consists of two seats, wth a total length of ten ft.; seven passengers can sit down at one time. The seats have a tubular-steel framework supporting wooden slats and when the passengers rise to board a vehicle the seats automatically close by a counterbalancing weight. Width of the seats has been kept down to 9 in., so that the knees of seated passengers do not obstruct other people using the shelter. In installing the seats priority has been given to points where many hospital patients board buses, including Park Royal, Isleworth and Stanmore.

Tip-up seats in use at a London Transport bus shelter (see paragraph above)

Uruguayan Railways Address.—The address of the following companies is now River Plate House, 12-13, South Place, E.C.2: Central Uruguay Railway Company of Montevideo; Midland Uruguay Extension Railway; Midland Uruguay Railway; North Western of Uruguay Railway; Quarahim International Bridge; and Uruguay Northern Railway. The telephone number is Central 0311.

Aer Lingus Basic Cargo Rates.—To encourage air freight traffic Aer Lingus announced on March 27 substantial reductions in basic cargo rates to take effect immediately. The reductions range from 11 per cent. on the Manchester service to 20 per cent. on the London and Glasgow services; decreases on the Birmingham and Liverpool routes are 11 per cent. and 13 per cent. respectively. Consignors on Continental services will also benefit.

South African Fares Increase.—An increase of 10 per cent. came into operation on April 1 on South African Railways rail and road motor fares and, with certain exceptions, rail and road motor freight rates. The increase also applies on through fares and rates over C.F.M. (Portos e Caminhos de Ferro da Colonia de Moçambique). Bedding and catering charges are not affected. South African Airways fares and excess baggage rates are increased by 10 per cent. only in respect of internal services in the Union of South Africa. Air fares to, from, and within South-West Africa remain unchanged.

Police National First-Aid Competition.—An eliminating contest was held at Peterborough on March 9, to select a team to represent the Eastern Area of the British Transport Commission Police in the National First-Aid Competition (Police) which will be held in London during September. Nine teams, including one team of policewomen, competed, and the first three places were awarded to Nottingham, Cambridge (uniform) and Grimsby (C.I.D.), respectively. From the Chair, Mr. H. H. Halliday, Regional Staff Officer, Eastern Region, remarked on the fact that the number of entries had increased by five since last year, and he hoped this progress would be maintained. The Jesper Cup was handed to the captain of the winning team by Mr. C. K. Bird, Chief Regional Officer, Eastern Region, who also presented the prizes. Lt.-Colonel G. J. Shepherd, Chief of Police, Eastern Area, thanked the Regional Centre Ambulance Secretary, and everyone who had participated, to make the contest a success. Among the guests were: Colonel N. McK. Jesper, Chief of Police, London Area; Mr. G. W. Beynon, Chief of Police, Scottish Area; Dr. Sharpe-Grant; Mr. A. G. Croxall, District Goods & Passenger Manager, Peterborough; and Mr. J. Blundell, District Motive Power Superintendent, Peterborough.

Institution of Locomotive Engineers Summer Meeting.—The summer meeting of the Institution of Locomotive Engineers will be held on May 12 next, and will take the form of a visit, by courtesy of British Railways, Western Region, to Swindon Locomotive Works.

Change of Address.—The firms of William Jessop & Sons Ltd. and J. J. Saville & Co. Ltd., Sheffield, steelmakers, announce a change in the address of their London offices, which in future will operate from Kingsway Chambers, 44-46, Kingsway, London, W.C.2; telephone Holborn 7145/6.

Riverside Station, Liverpool.—As from March 27 London Midland Region boat trains from Riverside Station, Liverpool, have been able to work through to Euston without change of engine. This has been made possible by rebuilding the bridge over Prince's Dock, Liverpool, which previously necessitated the use of small engines in the dock area. Class "7" engines are now permitted over the line.

Institute of Transport London Meetings.—So as to allow the fullest discussion of the papers presented at London meetings of the Institute of Transport, the Council has decided that in future not more than 40 min. will be allowed for the submission of a paper by the author, and that there should be no closure of the discussion. It has also decided not to set a formal time-limit on the length of each individual contribution to the discussion, but to leave this at the discretion of the Chairman.

North British Locomotive Co. Ltd.—A trading profit of £487,761 for 1949, as compared with £495,854 for the preceding year, is shown by the North British Locomotive Co. Ltd. After adjustments on account of taxation, £230,881 (£221,881) and other items, the net profit is £195,742 (£182,949). Sums of £50,000 (£4,323) were to be allotted to the general reserve, £60,000, against £92,000, to the capital replacement and development reserve, and of £25,000, as for last year, to pensions. An ordinary dividend is recommended of 5 per cent., as before, with a balance of £73,552 (£67,810) carried forward. The annual general meeting will be held on April 24.

Birmingham Railway Carriage & Wagon Company.—The net profit for 1949 of the Birmingham Railway Carriage & Wagon Co. Ltd. was £115,497, against £108,566 for the previous year. Sir Bernard Docker, Chairman, in his statement circulated with the report and accounts, refers to the restraint exercised by the directors in adhering to the dividend of 7½ per cent. on the ordinary shares. This, he said, was unchanged since 1939 although the average wage had risen 120 per cent. The proportion of output had not increased, due to cancellation of orders for wagons by Argentina caused by shortage of sterling. A burden, even if only temporary, on their resources, was the large amount owed to them in respect of rolling stock by the companies whose railways in Argentina had since been nationalised. Competition was likely to continue from the Continent, U.S.A., Canada, and Japan; regarding the last-named, said Sir Bernard Docker, he had warned the Board

OFFICIAL NOTICES

SENIOR and Junior Draughtsmen required, with experience in the design of diesel/electric locomotives. Men with sound steam and/or electric traction experience will be considered. Experience of bogie design would be an advantage. Reply particulars of training, experience, salary required to Box ..., *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 390 pages Medium 8vo. Full cloth. Price 20s. (by post 20s. 6d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

STEAM LOCO., 4 ft. 8½ in. gauge, 0-6-0, saddle tank, cylinders 14½ in. × 21 in., Stephenson link valve motion, steel tubes, 160 lb. boiler pressure, wheel base 9 ft. 8½ in., overall length 26 ft. 8 in., width 8 ft., height 12 ft., loaded weight 35 tons, steel fire box, sand box each end; built 1919 by Avonside (now Hunslet) Engine Company. In operation at Hamble, Southampton, but available end of May.—Offers to SHELL-MEX & B.P. LTD., Purchasing Dept., Strand, London, W.C.

FIRST PRINCIPLES OF RAILWAY SIGNALLING. By C. B. Byles. Most treatises on railway signalling are intended for the railway signal engineer, but this is an elementary treatise. Cloth. 7¼ in. by 5 in. 146 pp. Illustrated. 4s. By post 4s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, London, S.W.1.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiments. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. Price 2s. Post free 2s. 3d. *The Railway Gazette*, 33, Tothill Street, London, S.W.1.

of Trade that Japanese industry, under American direction, was a threat to them in many markets in which British predominance was traditional. Devaluation and the imminent rise in railway freight rates would increase the cost of materials, and wage increases had been demanded in their industry, all of which were handicaps in their overseas markets. Net current assets were £1,452,213 (£1,295,521), stock and work £1,234,593 (£1,049,223), and reserves £1,231,377 (£1,083,133). The annual general meeting will be held on April 25.

Powers-Samas Assets.—In the consolidated balance sheet it is shown that at December 31, 1949, current assets totalled £2,590,222, against £2,189,125, including stock of £1,734,583 (£1,312,039), debtors of £666,442 (£819,476), and cash of £180,005 (£57,015). Current liabilities totalled £1,645,145, against £1,314,678, including creditors of £631,486, while the bank overdraft is shown as nil as compared with £65,563.

Afternoon Reduced Fares.—Special reduced fares from London and many suburban stations to beauty spots within a radius of some 30 miles from London were re-introduced by the Southern Region of British Railways on April 1. These fares, cut to approximately two-thirds of the single fare for the double journey, will be issued every Wednesday, Thursday, Saturday and Sunday during the summer months, also on Good Friday and Bank Holidays for travel by all trains leaving between 2 p.m. and 4.30 p.m., and return by any train the same day. Among the stations to which these cheap tickets are being issued are Eynsford (for Lullingstone Castle and Silk Farm) 3s. return; Boxhill (for Mickleham Downs, Ranmore Common and Norbury Park) 3s. 3d. return; Clandon (for Newlands Corner and the Silent Pool) 3s. 9d. return; and Penshurst (for Penshurst Place and Chiddingstone) 4s. 6d. return, from London.

Indian State Railways Dinner and Ladies' Tea.—The annual Indian State Railways Dinner will be held on the Monday in Derby Week, May 22, at 7 for 7.30 p.m., at the Rembrandt Hotel, Thurloe Place, London, S.W.7. The Chair will be taken by Sir Leonard Wilson, a former Chief Commissioner of Railways, and the principal guest will be Sir Edward Benthall, lately Member for War Transport, Government of India. The speaker on current affairs in the sub-continent will be Mr. T. G. Creighton, Director General of Railways in Pakistan. Lounge suits will be worn and the charge for each officers' ticket is 17s. 6d. There will also be a Ladies' Tea on the same day at the Rembrandt Hotel, from 4 to 6 p.m. It is for wives of officers accompanied or unaccompanied by their husbands. A limited number of guests may also be invited to the tea, for which the charge per head is 2s. 6d. Tickets for both dinner and tea may be obtained from Mr. N. Calder, Honorary Secretary, I.S.R. Dinner Club, 16, St. James's Square, London, S.W.1. Cheques should be drawn in favour of the Secretary, I.S.R. Dinner Club.

Southern and North-Eastern Region Easter Excursions.—Apart from the 550-odd additional main-line services which are being provided by the Southern Region this Easter, nearly one hundred special excursion trains have been arranged on Good Friday, Easter Monday and Sunday, between London, suburban stations, the seaside and country; numerous cheap excursion tickets will also be issued by ordinary services on these days. Cheap tickets will be issued to the Navy "At Homes" at Portsmouth and Chatham dockyards. In the North Eastern Region there will be 90 excursion trains at cut fares, including 20 to race meetings, 16 to football matches, and 41 to the seaside.

British Railways, Southern Region, Lecture & Debating Society Annual Report.—A substantial increase in membership to approximately 1,000 is recorded in the sixteenth annual report of British Railways, Southern Region, Lecture & Debating Society. Gratitude is expressed to Mr. John Elliot (now Chief Regional Officer, London Midland Region) for his interest and assistance over many years and to Mr. C. P. Hopkins, who has succeeded him as President. The report gives details of the varied programme of indoor meetings arranged during the winter months and it is stated that the organisation of visits to places of transport interest is now an important part of the Society's activities. The subject of the prize essay competition this session was "What do you consider to be the facilities and layout required for the ideal railway station of the future." There were ten entrants and the Committee records its thanks to the three judges, Messrs. A. E. Hammett, J. L. Harrington and D. R. Lamb.

Cammell Laird & Company.—Accounts for 1949 of Cammell Laird & Co. Ltd. show a trading profit of £897,880, against £811,939 for 1948, which with £257,447 income (as for 1948) from associated companies and other items totals £1,256,529. The net earnings, after deduction of £60,000 (nil in 1948) for depreciation of trading stocks, and £558,000 (£557,000) for tax, and writing down Government securities by £15,515 (against nil), were £436,976 (£409,831); addition of £192,673 balance brought forward gives a total of £629,649. From this, interim dividend of 3 per cent., less tax, is to be deducted on £3,550,000 ordinary stock paid on October 5, 1949, leaving a balance of £571,074, which the directors recommend should be appropriated in payment of 6½ per cent. final dividend, less tax, with £250,000 transferred to general reserve and £194,162 carried forward. As resolved by the extraordinary general meeting in June, 1949, 7,100,000 ordinary 5s. shares fully paid were allotted and distributed as a free bonus from the general reserve. The annual general meeting will be held on April 25.

Claims Against British Railways.—As part of the campaign to reduce the pilferage of goods in transit, the Railway Executive has decided to expedite investigations by reverting to the statutory time limits for lodging complaints and claims in respect of partial loss, damage, deviation, misdelivery, delay or detention of traffic consigned on or after June 1. This means that complaints should be advised in writing to British Railways within three days of termination of transit, and that a written submission of claim must be made within seven days after termination of transit. During the war, to meet postal and staff difficulties, these statutory periods were extended to seven days and ten days respectively. For the present, no change is being made in the extended periods applicable to non-delivery of the whole of the consignment, or of a separate package forming part of the consignment.

Debating Societies Joint Meeting at York.—On Friday, April 14, a party of sixty members of the Southern Region Lecture & Debating Society will proceed to York for a two-day meeting with the North Eastern Region Federation of Lecture & Debating Societies. During the evening of April 14 a joint debate will be held at the Railway Institute, York, on the subject "That under a properly co-ordinated transport system the railways would cease to cater for passenger traffic for distances under ten miles." Speakers will be chosen from both Societies, and Mr. H. A. Short, Chief Regional Officer, North Eastern Region, will be in the Chair. On April 15, members will visit the new colour-light signalbox, the signal training school, York Station, and the Carriage & Wagon Works. The party will be entertained to lunch by the North Eastern Region, after which there will be visits to the York Railway Museum and to York Minster in the afternoon.

Western Region Women's First-Aid Competition.—The results of the Western Region Women's First-Aid Competition, which was held at Elliott House, London, on March 16, were as follows:—

Teams	Marks
Swindon "A" (Florence M. Lean Cup and prizes)	278
Swindon "B" (Mabel A. Potter Cup and prizes)	251
Newton Abbot (Prizes)	250½
Birmingham	231
Paddington	225½
Bristol	168

Colonel E. J. Selby was the adjudicator in the team test, and Dr. P. F. A. Watkins in the individual tests. The subsequent proceedings were presided over by Mr. R.

Burgoyne, Regional Staff Officer, and the presentation of trophies and prizes made by Mrs. Burgoyne. The Chairman was supported by the adjudicators, also by Dr. C. T. Newnham, Regional Medical Officer; Mr. S. G. Hearn, Assistant Operating Superintendent; Mr. K. C. Griffiths, Staff Assistant to Operating Superintendent; Mr. T. G. Miller, Assistant to Commercial Superintendent; Mr. A. G. Roberts, Principal Assistant to Stores Superintendent; Miss E. Brenan, Welfare Supervisor for Women; Miss H. Catto, Women's Welfare Superintendent, London Midland Region; Mr. P. Anstey, Ambulance Centre Secretary; and Mr. J. A. Martin, Assistant Centre Secretary. The Swindon "A" team will represent the Western Region in the Women's Inter-Railway Competition which is being arranged by the St. John Ambulance Association at Central Hall, Westminster, on May 19.

Forthcoming Meetings

April 8 (*Sat.*).—Scottish Society of Students of the Locomotive. Visit to Eastfield Motive-Power Depot, Glasgow, at 3 p.m.

April 10 (*Mon.*).—Institute of Traffic Administration, Birmingham Centre, at the Crown Hotel, Corporation Street, Birmingham, at 7 p.m. "Road Communications between the Midlands and South Wales," by Mr. J. P. Gaudin.

April 13 (*Thu.*).—Royal Society of Arts, India, Pakistan & Burma Section, John Adam Street, Adelphi, London, W.C.2, at 5.15 p.m. Joint meeting with the East India Association. "Projected Industrial Development in Pakistan," by Mr. Hamid Ali, Deputy Trade Director, Office of the High Commissioner for Pakistan.

April 13 (*Thu.*).—Institute of Welding, North London Branch, at the Polytechnic Institute, Regent Street, London, W.1, at 7.30 p.m. Annual general meeting for Members, Associate Members, and Associates. Film show at 8.30 p.m.

April 14 (*Fri.*).—Institution of Railway Signal Engineers, at the Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 6 p.m. "Some Comments on the Introduction of F.B. Rails in Britain and its Effect on Signalling," by Mr. J. H. Devine.

April 14 (*Fri.*) and 15 (*Sat.*).—British Railways, Southern Region, Lecture & Debating Society, and North Eastern Region Federation of Lecture & Debating Societies joint meeting at York.

April 14 (*Fri.*).—Railway Students' Association, London School of Economics & Political Science. Annual Association Dinner & Dance, at the London Transport Executive Dining Club, Pelham Street, South Kensington, at 6.15 for 6.30 p.m.

April 14 (*Fri.*).—Railway Club, 57, Fetter Lane, London, E.C.4, at 7 p.m. "Southern Region Electric Rolling Stock," by Mr. H. C. Hughes.

April 14 (*Fri.*).—Carlisle & District Transport Club, at the County Hotel, Carlisle, at 7.30 p.m. Annual general meeting.

April 15 (*Sat.*).—Permanent Way Institution, Manchester & Liverpool Section, joint meeting with Irish Section.

April 17 (*Mon.*).—Institution of Electrical Engineers, Savoy Place, London, W.C.2, at 5.30 p.m. Discussion on "Private Generation and the Public Supply," opened by Mr. A. N. Irens.

Railway Stock Market

Holiday influences have made for further contraction in the volume of Stock Exchange business, although in general the market tendency was firmer, helped by a further moderate up-trend in British Funds. There has been no general increase of activity in Foreign Rails which continued to reflect the general uncertainty of markets. Nevertheless, based on take-over estimates and calculations, many of the remaining South American railway stocks in which investors are still interested appear to be very moderately priced, and consequently it would not be surprising if before long there is a revival of activity in this section. The rise in British Funds has been based to some extent on the view that, provided the budget brings no important tax reductions, this will tend to react unfavourably on industrial shares, because Sir Stafford Cripps also is expected to ask for dividend limitation to be maintained for another period.

Some consider that until the next General Election the scales will probably be weighed against industrial and other equity shares, and that because of this, British Funds and other fixed-interest securities may be favoured. Markets have been influenced more by the current trend in earnings indicated by company results.

Leopoldina Rail stocks have remained active at the time of writing in anticipation of the share-out scheme, which cannot of course come into force until it has been approved by stockholders and the take-over has been finally ratified by Brazil, which it is still feared may not be for some months. It is pointed out that even if only £8 million of the £10 million purchase money were left for stockholders after providing for current and other liabilities, pay-out money for all classes of debentures would still be well above current market prices. In fact the 6½ per cent. debentures might prove to be worth £150-£160 compared with the current market price of 130½. Though there is still uncertainty as to the relative merits of the ordinary and preference stocks they have both remained active.

Leopoldina 4 per cent. debentures are changing hands around 93¾, the 5½ per cent. preference at 26½, and the ordinary stock at close on 10. Leopoldina Terminal 5 per cent. debentures were 98 and the £1 ordinary units firmed up to 2s. 3d. Great Western of Brazil have been steady at 136s. 3d. and San Paulo 10s. units strengthened to 14s. 3d., but Brazil Rail Gold Bonds eased to 42, although some estimates of their eventual break-up value exceed 50. In other directions Antofagasta ordinary and preference have eased to 8 and 45½ respectively and United of Havana stocks were generally easier with the 1906 debentures at 25½. Manila "A" debentures eased to 89, and the preference shares to 9s. 1¾d. on the latest news from the Philippines. Although a move of this kind is said to be likely eventually, it is now being assumed that it may be some time before the American Government can make a deal with Manila Railroad, whose bonds are held by the Manila Railway. Nitrate Rails have changed hands around 72s. and Taltal shares continued active around 19s. National of Mexico non-assented bonds were active with the 4½ per cents at 26¼. Canadian Pacifics turned easier at 27⅛. White Pass Yukon income debentures were active again up to 74.

Apart from continued fluctuations in B.E.T. deferred stock, shares of road transport and allied companies have remained steady, with Southdown 125s., Lancashire Transport 82s. 6d., and West Riding 64s.

There was again a firm undertone in iron and steel shares, which now rank attractively from the investment point of view, bearing in mind the good yields and reasonable prospects of dividends being maintained. Moreover, should nationalisation be effected, this could not be until 1951, and in that case iron and steel shares would be worth their take-over values which are in most cases substantially above current market prices.

Shares of locomotive builders and engineers remained well maintained although inactive. Vulcans were 18s. 3d., Beyer Peacock 20s. 3d., North British Locomotive 18s., and Gloucester Wagon 47s. 6d. Wagon Repairs 5s. shares were 16s. 3d., but at Glasgow, Hurst Nelson were 57s. 6d., after 58s. T. W. Ward kept at 56s. 3d. and pending the dividend announcement. Vickers were active around the lower level of 27s. 9d.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1947/48	No. of week	Aggregate traffics to date: Total 1948/49	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	811	26.3.50	63,090 —	10,130	12	723,004	— 94,190
	Costa Rica	281	Feb., 1950	c685,032 —	c248,448	35	c6,604,802	— c1,416,433
	Dorada	70	Feb., 1950	39,908 +	11,844	8	78,005	+ 18,292
	Inter. Cti. Amer. ...	794	Feb., 1950	$1,181,630 +	$182,446	8	$2,468,266	+ $379,280
	La Guaira	22¾	Feb., 1950	$78,787 —	$26,912	8	$157,349	— $58,645
	Nitrate	382	15.3.50	13,098 —	5,078	11	97,818	+ 14,286
	Paraguay Cent. ...	274	24.3.50	₲160,480 +	₲69,453	38	₲5,441,884	+ ₲1,493,719
	Peru Corp. ...	1,050	Feb., 1950	$5,954,700 +	$1,290,676	35	$46,205,358	+ $14,445,660
	" (Bolivian Section)	66	Feb., 1950	Bs.9,346,000 +	Bs.1,867,691	35	Bs.81,738,164	+ Bs. 13,679,397
	Salvador	100	Dec., 1949	c278,000 +	c11,000	26	c730,000	— c46,000
	Taltal	154	Feb., 1950	12,890 +	1,295	35	103,045	+ 34,115
Canada	Canadian National†	23,473	Feb., 1950	12,255,000 —	45,000	8	23,935,000	— 801,000
	Canadian Pacific† ...	17,037	Feb., 1950	8,801,000 —	166,000	8	16,982,000	— 1,240,000
Various	Barsi Light* ...	167	Feb., 1950	25,470 —	3,272	48	324,240	+ 21,755
	Egyptian Delta ...	607	20.2.50	19,054 +	830	47	611,448	— 43,078
	Gold Coast... ...	536	Jan., 1950	132,620 —	111,046	44	2,313,799	+ 169,763
	Mid. of W. Australia	277	Jan., 1950	34,405 +	7,202	31	211,561	+ 8,509
	Nigeria	1,900	Jan., 1950	502,360 +	38,978	44	5,017,814	+ 266,573
	South Africa ...	13,347	4.3.50	1,463,342 +	30,913	49	71,138,434	+ 5,621,348
	Victoria	4,744	Dec., 1949	1,866,026 +	372,920	26	—	—

* Receipts are calculated @ 1s. 6d. to the rupee

† Calculated at $3 to £1